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Educational News and Editorial Comment

CHARLES WILLIAM ELIOT

Charles William Eliot died on August 23, 1926, in his ninety-third year. For the last seventeen years, since his retirement from the presidency of Harvard University, he has lived in Cambridge, Massachusetts, and in Mount Desert, Maine, lending his counsel and support to numerous enterprises organized to promote civic and social betterment. During the period of his presidency, from 1869 to 1909, he was the most conspicuous educational leader of his time.

Among the services which he rendered to American institutions of learning, none is more far-reaching in its influence than the preparation of the report of the Committee of Ten. Prior to 1892, the date of the appointment of the Committee of Ten, the American high school was an ill-defined, unstandardized institution. The courses of study administered in the high school were of various lengths and of uncertain content. The relations between colleges and high schools were those of two-sided unsympathetic criticism. The sphere of secondary education was a matter of local choice. For years President Eliot had recognized the importance of establishing, by agreement between educational administrators, a national program of co-operation. He had taken the initiative in organizing conferences between the schoolmasters around Boston and representa-

tives of Harvard. During the years immediately preceding 1892 he had taken an active part in the proceedings of the National Education Association, and in 1892 he accepted the chairmanship of the Committee of Ten.

Another important contribution which President Eliot made to public education is somewhat less commonly appreciated than is his organization of secondary education. He established at Harvard a department of education. He brought Paul Hanus, a teacher of mathematics in the East High School of Denver, Colorado, to a professorial position in Cambridge and encouraged in every way the development of a scientific attitude toward school problems. Professor Hanus found that the conservatives on the Harvard faculty were wholly unable to understand the enlightened views of their president. There was little hospitality among the men in science or among the men in letters for the new department, which had as its duty the systematic study of education. Without the powerful support of President Eliot, the department of education could not have survived. With his support, the department not only survived but gained the momentum which developed it into a separate professional school.

President Eliot's interest in public education appeared again and again in the years following his retirement. He always attended the annual meetings of the Harvard Education Association, and he always contributed to the discussions of that association. Whenever he spoke, his listeners were impressed by the clarity of his insights, the breadth of his information about educational progress, the unselfish interest which he always exhibited, and the forceful way in which he brought to expression American ideals of democratic education.

At the funeral services in Cambridge, Dr. G. A. Gordon, President Eliot's friend and associate, gave expression to the sentiments that are in all men's minds.

> Nothing is here for tears; lamentations are wholly out of place. Today we bring our veneration for the great spirit that has left our world and our thanksgiving to God for one of His greatest gifts to mankind, an illumined and illuminating mind upon the most vital issues of life, and a will mighty in its exalted purpose forever devoted without stain or blemish to public good.

We give thanks that release has come to our great leader from inevitable, increasing limitations; for freedom to this great prophet of freedom; for the end of enforced idleness to one who hardly knew the meaning of idleness; for the new and grander opportunity that now confronts him for whom service was a joy, for whom work was worship, here and in the eternal temple of God. "The Lord gave and the Lord hath taken away. Blessed be the name of the Lord."

The ancient and imperishable faith comes upon us here with an almost overwhelming reality and impressiveness.

"What know we greater than a soul?
On God and God-like men we build our trust."

He was a righteous man, and the sense of his living righteous God was a part of the substance of his being. He was our moral hero, and through him we beheld essential Christianity in austere simplicity and loveliness, in its strength and tenderness, in its benignity, and in its perpetual bloom.

He led the academic mind of the nation on a new highway; he spoke to American citizens as no other man of our time has done; and today his shadow, whether men know it or not, lies athwart the whole breadth of the land, a reconciling and healing grace, and there it will lie forever.

For those of us who have known him for many happy years, and who have toiled by his side, he was our rock and our fortress in our struggle for righteousness. When we think of the other world and of him—simple, calm, grand—we involuntarily cry out:

"Never to the mansions where the mighty rest,
Since their foundation came a nobler guest."

I must say no more; I seem to hear a voice from beyond time admonishing me and saying: "Speak no more of his renown. In the great Cathedral of Nature leave him. God accept him. Christ receive him."

In the light of his ideals, in the splendor of his achievements, and in the cheer of his high example, we pledge our best to the university whose chief glory he was and to the country whose greatest private citizen he has been for a generation of years.

EFFECT OF THE JUNIOR HIGH SCHOOL ON COLLEGE-ENTRANCE REQUIREMENTS

The Bureau of Education of the United States conducted an inquiry among the colleges of the United States to ascertain how far entrance requirements have been modified in view of the spread of the junior high school. Arthur J. Klein, the chief of the Division of Higher Education of the bureau, has prepared a mimeographed report of the findings of this inquiry.

The questions put to the colleges were as follows:

(Please underscore correct answer)

1. Do you at present accept three years of senior high school work (12 units) for admission without reference to preceding work? Yes. No.

2*a*. Do you require a record of the last year of junior high school work in addition to the three-year senior high school record? Yes. No.

b. May a graduate of a junior high school offer his certificate of graduation from the junior high school as the equivalent of three elective units for entrance credit? Yes. No.

3. Do you give any entrance credit for work done before the third year in the junior high school (language, for instance)? Yes. No.

4. Would you be inclined to accept twelve units of senior high school work for entrance if other institutions and accrediting agencies approved such procedure? Yes. No.

5. If you care to make further comment on this subject, please do so below.

The answers are summarized in the following table.

Question	Yes		No		Total Number of Replies
	Number	Per Cent	Number	Per Cent	
	Four-Year Colleges				
1	39	7.9	452	92.1	491
2*a*	404	90.0	45	10.0	449
2*b*	30	11.1	241	88.9	271
3	102	23.0	342	77.0	444
4	312	73.2	114	26.8	426
	Junior Colleges				
1	5	5.5	86	94.5	91
2*a*	80	92.0	7	8.0	87
2*b*	4	8.5	43	91.5	47
3	25	27.8	65	72.2	90
4	75	84.3	14	15.7	89

The comments made by Mr. Klein on the facts exhibited in this table and in other tables not quoted are as follows:

These tables show that a higher percentage, 9.4 per cent, of the colleges with enrolments of less than 500 admit on the sole basis of twelve units earned in the three-year senior high school than is the case with any of the other classes of institutions for which tabulations are made. Private colleges enrolling more than 1,500, with 5.4 per cent, are the most conservative of the groups tabulated on the basis of size. The medium-sized institutions, with 7.4 per cent, also fall short of the general percentage, 7.9 per cent, for all four-year institutions. State universities, with 7.5 per cent, are only slightly less liberal than the general run

of four-year institutions, but the percentage for all state-supported colleges and universities, 5.3 per cent, falls considerably short of this.

Tabulations by territory included in each of the regional accrediting associations show that practice with regard to admission to college on the basis of twelve senior high school units is most liberal in the region covered by the North Central Association. More than 12 per cent of the colleges reporting admit on the twelve-unit basis without reference to preceding work. The territories of the New England and the Northwest associations are most conservative, with 2.9 per cent and 3.2 per cent, respectively. In the region of the Southern Association the percentage, 7.8 per cent, of institutions admitting on the twelve-unit basis is practically the same as the general percentage for all four-year institutions. Percentages determined on a regional basis are, of course, affected by the degree to which the 6-3-3 plan of organization has developed.

Institutions in the following states indicate that there are no or so few schools organized on the 6-3-3 plan that the question is not a matter of serious consideration: North Carolina, South Carolina, Illinois, Texas, Oklahoma, New York, Oregon, Mississippi, Georgia, Missouri, Colorado, Massachusetts, Delaware, Nevada, South Dakota, Rhode Island, Maine, Minnesota, Virginia, Kentucky, Indiana, and Florida.

Thirty four-year colleges of a total of 271, 11.1 per cent, whose replies or comments were such as to indicate that the question was understood, allow graduation from junior high school to count as the equivalent of three elective units in making up the fifteen required for admission; of the thirty, twenty are institutions with enrolments of less than 500. The number in the other classes of institutions covered by the tabulations is negligible. Again, the territory of the North Central Association shows a larger percentage of institutions granting elective units on the basis of junior high school graduation than does the territory of any of the other regional associations.

Almost one-quarter of the four-year colleges, 23.0 per cent, 102 institutions out of a total of 444, allow credit for certain subjects carried before the third year in the junior high school. In this case private colleges with enrolments of from 500 to 1,500 are the most liberal, 26.9 per cent making such allowance. In the territory of the Southern Association 28.1 per cent of the institutions grant such credit in language for the most part, while in the territory of the New England Association only 13.8 per cent give credit of this kind. The territory of the three other associations follows the practice of giving such credit in more than 20 per cent of the institutions which answered the question.

Seventy-three and two-tenths per cent of the four-year colleges would be inclined to accept the twelve-unit method of admission if other institutions and accrediting associations approved the procedure. State universities, with 78.5 per cent, are the most inclined to adopt this plan. Private colleges with enrolments of from 500 to 1,500 are the most conservative, with 66.6 per cent, while private colleges with enrolments of more than 1,500, with 70.0 per cent, are also less inclined to change than are four-year colleges as a whole. Of the colleges in

the territory of the North Central Association, 83.4 per cent are willing to adopt the plan. In the territory of no other association are the colleges as hospitable to the plan as are the four-year colleges as a whole. The institutions in the territory covered by the New England Association are the most conservative, with 58.3 per cent, but the colleges in the region of the Association of the Middle States and Maryland, with 59.1 per cent, are only slightly less reluctant.

The Bureau of Education has done a great service in bringing together this material. It ought to show high-school people that they must carry on a vigorous campaign to inform the colleges that the junior high school is here as a permanent part of the public-school system of the United States and that this institution is different from the senior high school. In the second place, high-school people should point out to the colleges with such emphasis as may be necessary to secure attention that a pupil who has done satisfactory work in school for three years can safely be assumed to have a satisfactory background for these three years. In short, high-school officers should unite in compelling the colleges to act in this matter and to act forthwith.

TIME REQUIRED FOR PREPARATION OF LESSONS

To determine the time actually required by high-school pupils for the preparation of their lessons outside the recitation periods, a questionnaire was sent to pupils by the commissioner of secondary schools of California. Replies were received from 95,000 pupils. Of these, 4.2 per cent frankly admitted spending no outside time in preparation; 9.6 per cent reported spending from 1 to 15 minutes on each recitation; 31.6 per cent, from 16 to 30 minutes; 44.5 per cent, from 31 to 60 minutes; and 10.1 per cent claimed to devote an hour to outside study for each recitation. It is evident from these replies that an average of from 45 to 60 minutes is required for the thorough preparation of a high-school recitation.

ANNIVERSARY VOLUME OF THE COLLEGE ENTRANCE EXAMINATION BOARD

On the completion of the twenty-fifth year of its operations, the College Entrance Examination Board published a volume of three hundred pages reviewing its achievements and describing its modes of procedure.

In a letter accompanying the volume, the secretary of the board, Professor Thomas S. Fiske, writes as follows:

The growth of the College Entrance Examination Board has been phenomenal. Beginning with less than one thousand candidates in 1901, the board examined more than two thousand in 1905, more than four thousand in 1911, more than ten thousand in 1916, and almost twenty thousand in 1925.

Not only does the board exert a great influence on secondary schools and colleges with which it comes into contact, but its deliberations and the reports of its various committees are followed with interest by educational institutions and by associations of teachers everywhere. In fact, it has been said on more than one occasion that during the past quarter of a century the College Entrance Examination Board has been more powerful than any other single agency in promoting sane and sound standards in the secondary schools of the United States.

In a second letter, Professor Fiske suggests the items in the anniversary volume which, in his judgment, merit attention. This letter is as follows:

A few days ago we asked Ginn and Company to send you a review copy of the volume, *The Work of the College Entrance Examination Board, 1901–1925*. If you ask someone to prepare a review or notice of this volume, it may save time for him and perhaps be helpful in other ways if we call attention to the following passages in the volume that seem to us of special interest:

Page 53, "Validity of College Entrance Examinations"
Page 163, "Value of Written Examinations"
Page 188, "Measuring the Performance of a Candidate"
Page 202, "Trustworthiness of the Board's Examinations"
Page 204, "The Attitude of the Board toward Innovations"
Page 213, "Possibility of Lessening Fluctuations"

Being of an inquiring mind, the writer read portions of the volume and gave special heed to the pages mentioned in the letter quoted. He was especially impressed by the section beginning on page 163 entitled, "Value of Written Examinations." This section is as follows:

In the Annual Report for 1919 the secretary discusses the educational value of written examinations. He declares that the ability to write on an assigned topic connectedly, in logical order, and in correct English is so important that to assist boys and girls to develop this power is one of the leading functions of the secondary school.

In estimating the influence of the College Entrance Examination Board on the educational welfare of the country, one should bear in mind the fact that the

conditions of modern civilization make the written test no less important than the oral. Written examinations are necessary to prepare for written examinations, and by constant practice pupils will form habits and methods of thought that in after life will be helpful and valuable. By oral recitation the pupil gradually acquires the self-confidence that enables him to voice his thoughts more and more fully and correctly; in similar manner, skilfully conducted written tests will help the pupil to express himself in writing accurately and briefly even when under external pressure.

Some years ago, the secretary of the College Entrance Examination Board found himself in a section of the country where written tests in secondary schools were practically unknown. The principal of a large public high school, who in previous years had been an examiner for the board, undertook, shortly after assuming office, to introduce in an unobtrusive way written tests for the purpose of supplementing the daily classroom records. The Parents' Association interpreted this innovation as a challenge and promptly sallied forth to meet it. The feelings of the community were aroused to a high pitch, and the principal found himself unable to continue his attempt to test the acquirement of his pupils otherwise than by daily recitations. It has been said that he was charged with violating a provision of the Constitution of the United States dealing with unusual forms of punishment and cruelty. That the board's operations do not have the cordial support of that community and that it is difficult to secure intelligent and efficient supervision of the board examinations there will surprise no one.

The secretary believes that in a community which knows only the certificate system of admission to college written tests may eventually become extinct and the children may lose the benefit of one of the most important of educational instrumentalities.

It is disappointing to find this somewhat meager defense of written examinations. The anxiety of the honorable secretary induced by his visit to the frontier will perhaps be allayed when he is assured that a vast area of the United States is managing its college admissions without examinations and is not suffering from intellectual atrophy. Furthermore, those who have learned the limitations of the examination system are certain not to adopt in the immediate future any plan which has as its chief defense an attack on a well-meaning parents' association.

The volume contains addresses by Presidents Butler, Pritchett, and Sachs; a history of the board by Wilson Farrand; and President Lowell's recent article on "The Art of Examination" published in the *Atlantic Monthly*. There are statistics, samples of examinations, and lists of those who have participated in the work of the board.

The board is to be congratulated on the occasion of its twenty-fifth anniversary. To one who lives west of the Allegheny Mountains the board is an interesting example of educational history.

COLLECTIVE OPINION OF HIGH-SCHOOL TEACHERS

The summer schools of American universities provide a unique opportunity for the comparison of educational experiences. Teachers and school administrators from all parts of the country come together in these summer schools and learn from one another quite as much as they learn from the faculty.

The School of Education of the University of Pennsylvania has put into permanent form some of the results of an exchange of experience among its summer students and has sent to the educational journals the following material.

"Laziness" was termed the principal vice of modern high-school pupils and "frankness" their outstanding virtue in a symposium on secondary education, in which teachers from fourteen states attending the summer session of the School of Education of the University of Pennsylvania proved far more ready to defend the pupils than to censure them.

Ninety-five per cent of the educators noted an increasing tendency to shift too much of the burden of child-training from the home to the school and attributed this trend to a variety of reasons, many of which were not flattering to the parents.

Due appreciation of existing economic and social conditions influencing child-training was expressed by virtually all the teachers, and fully one-half declared that there is too much parental devotion to outside interests, such as social activities and politics. Of the social activities enumerated, bridge clubs in particular were forced to bear a large share of the pedagogical attack.

The teachers likewise showed a disposition to be frankly critical, even if it hurt, when commenting on their own shortcomings, and many took occasion to deplore what they described as a disposition on the part of some members of their profession to view it merely as a "stepping-stone."

The symposium, designed to obtain the opinions of the educators regarding various conditions in the field of secondary education and the factors contributing, was conducted through the medium of a questionnaire answered by men and women whose individual teaching experience ranged from one to twenty-two years, nine years being the average for the entire group.

Specifically requested to name the outstanding shortcomings of high-school pupils as a class, the teachers enumerated a considerable number, "laziness" polling a large number of votes and "sophistication" and "lack of concentration" receiving prominent mention.

When the teachers were asked whether they considered justified the oft-

repeated indictment of high-school pupils as "flippant, rebellious against discipline and old traditions, and lacking in serious purpose," 81 per cent gave an emphatic "No" as their reply, and the majority even volunteered an enthusiastic defense of the pupils.

Further evidence of the tendency to defend the pupils was given when the teachers were asked to name the pupils' three outstanding good points. Many found it difficult to keep within the limit of the three prescribed and added a few additional items to their lists. The "frankness," "initiative," and "co-operative spirit" of the pupils were frequently praised.

Boys and girls were declared to be equally acceptable as pupils by about one-fourth of the teachers, while, of those expressing a preference in the matter, nearly 60 per cent selected boys.

Of the teachers experienced in both rural and city schools, 73 per cent said that they found rural pupils more obedient and anxious to learn than those in the city, but only 45 per cent expressed a preference for rural teaching. Belief that the city field offers wider opportunity and better teaching equipment was a prime factor in influencing those favoring city schools.

Overwhelming sentiment in favor of men for positions as supervisors and principals was recorded, the principal reasons cited being that men possess more native administrative ability, are better able to enforce discipline, have broader vision, and are less likely to devote undue attention to petty details.

More than 70 per cent saw no objection to married women holding teaching positions, although a number said that they approve discrimination against married women who have young children to care for at home and also against those not in need of the salary for support.

Opportunity to criticize their own profession was afforded the teachers when they were asked to name the principal cause for the high turnover in the teaching profession. While "low salaries" was most frequently mentioned as the cause, many of the teachers voluntarily criticized the tendency of some members of the profession to regard it as a mere stepping-stone. Lack of stringent requirements for qualification as a teacher in many school districts was cited, and the belief was expressed that normal-school standards should be raised in a number of places.

LANGUAGE ELECTIONS IN THE HIGH SCHOOLS OF NEW YORK CITY

French is the most popular language studied in the senior high schools of New York City. Of 107,460 pupils enrolled in language classes last spring, 38,653 were studying French; 32,415, Spanish. German was studied by 6,255 pupils and Italian by 1,434 pupils. The classics are not as generally studied as are the modern languages; 28,521 were taking the Latin course, and only 182 were studying Greek.

NEW HIGH-SCHOOL BUILDINGS IN NEW YORK CITY

The following account of an interview with the superintendent of school buildings of the New York City school system was published by the *New York Sun*.

Architecturally as well as in educational facilities and equipment, the new secondary schools about to be erected by the board of education in the furtherance of the greatest secondary-school building program in the city's history are unique. Many new problems of both construction and artistic taste have been met by Architect William H. Gompert, superintendent of school buildings, and his staff in the planning of these structures, which will cost the city nearly $30,000,000 and will be the school homes of nearly 30,000 boys and girls a year.

Attempts to speed this tremendous building program by standardization of schools as a whole have proved vain. Classroom units, special rooms and science laboratories, cafeterias, kitchens, shower-rooms, equipment, etc., have been standardized, and this has helped in rapidly preparing plans for these structures. The standardized complete plans, such as were used for the James Madison and the James Monroe high schools and for the New Utrecht and the Thomas Jefferson high schools have not been used for the more recent schools to be erected.

In an interview with a representative of the *Sun*, Mr. Gompert gave the reasons for this as follows, describing briefly the architectural outlines for each of these buildings:

"In most of these buildings the general style is dictated by modern practical conditions, that is, the fact that it is more economical to use steel construction with twelve-inch brick walls and the necessity nowadays of admitting a greater percentage of light through the wall surfaces to light and ventilate classrooms properly.

"We have standardized our units, and this naturally gives us a type design to start with. However, the first and most important item is the site condition. To meet this, we have developed several new types of high schools, perhaps the most unique being that to be erected on Adelphi Field, now known as the John Adams High School, which is of the pavilion type with a cross plan having gymnasiums and an auditorium in the rear. This new plan was devised to meet certain angular conditions in the site. The use of brick and building tradition in the vicinity of New York made us decide to use Georgian or Colonial style modified by the practical conditions mentioned.

"In the new DeWitt Clinton High School, a school which is perhaps larger than any other ever built, a scale closely resembling the famous building at Versailles is followed. Here again we have tried to treat our plans in a modern style based largely on Colonial motifs, having the character of the Fifteenth Century Greek sculpture.

"Very different from these two is the Bronx Vocational School. Here we have a brick factory, which we have decided to make beautiful as well as utilitarian. In order to do this, we have gone entirely to the modern architectural

style, based on the present-day mechanical age. Its two severe towers are used for the practical purpose of housing water tanks. Yet upon these is the only ornament used on the building. Definitely to contrast with the lone plain architectural surfaces, we have elaborately carved on these towers inscriptions and symbols relating to the mechanical trades, depicting the historical development of mechanism in this country.

"The Walton High School is really an addition to the present school, and this largely influenced the choice of the Italian Lombard style. It will be interesting in mass with very simple brick trim and practically no ornament.

"The Richmond Hill High School, which is still in the process of development, will have some of the characteristics of the simpler brick buildings of the François Premier buildings around and in Toulouse, France.

"The Far Rockaway High School is a simple three-story school with a large forecourt reminiscent of Kirby Hall in England. The site conditions and the general development of the scheme have decided the use of this famous English school as a prototype. The style will be again modernized on the late Tudor lines, adapting the details of the Italian Renaissance.

"The Theodore Roosevelt High School, which will be the next high school completed, is in simple, rugged Colonial style, suiting both the architectural traditions of New York and the character of the man for whom the school was named.

"The Brooklyn Trade School for Girls is still in process of development but, because of its close affiliation with the mechanical age which we are now in, will probably be in the modern style now so prevalent in Europe but with more delicate and feminine characteristics than its companion building, which is being erected in the Bronx for boys. This style is probably being used for the first time in this country in any building and certainly for the first time in school buildings."

NEW-TYPE EXAMINATIONS

A summary of the arguments for and against new-type examinations is presented in a bulletin published by the University of Illinois under the title, *Objective Measurement of Information*. The author is Charles W. Odell.

Professor Odell points out that new-type examinations permit easy scoring and require a minimum of writing on the part of pupils. He then describes their chief advantage in the following paragraph.

The third advantage, which is to some extent due to the fact that little writing is required, is that a much wider range of achievement can be measured or a much larger sample can be secured than is possible by a discussion or essay examination requiring the same amount of time. This minimizes the likelihood that pupils just happen to know or not to know a large enough proportion of the answers to the questions asked that their scores are largely the result of chance.

With regard to the time required of teachers, Professor Odell writes:

> There appears to be general agreement that it requires more time for the teacher to prepare the new type than the old. It can readily be seen, therefore, that, if only a few pupils are tested, any economy in scoring will be balanced by the added time required for making. On the basis of his own experience in using such tests, the writer believes that for classes as large as forty, and in some cases for those of only twenty-five or thirty, the total amount of time required of the teacher is no greater for the new than for the old type of examination. In a few such cases he has even found it to be less. Furthermore, it should not be forgotten that in most cases a comparatively unskilled clerk can, if it is desired, score exercises of the new examination type, whereas this is impossible with practically any traditional examination.

The major part of the bulletin is devoted to the presentation of examples of suitable examination questions of various types and to a statement of the principles involved in the formulation of questions.

With regard to the comparative merits of new-type examinations and conventional examinations, the following statement is made.

> Therefore the writer maintains that tests of the types described in this circular should be used, for the most part, when one desires to measure memorized facts or information and that their use for this purpose should be merely part of a complete testing program which also includes examinations of the traditional kind. The proportionate amount of testing to be done by each of the two methods in a particular situation depends chiefly on the kind of subject matter covered and the objectives of the course.

It is the judgment of the writer of this editorial that careful heed should be given by teachers to the warning issued in the foregoing quotation. The essay type of examination serves one purpose which is of the highest importance. It gives pupils training in continuous discourse. The typical American recitation too frequently degenerates into a series of questions by the teacher and monosyllabic answers by the pupils. At some time in his course the pupil needs to be trained in the formulation of a train of ideas. Coherence and continuity of thinking are more important than is the possession of fragments of information. Not long ago the present writer was discussing with a university student the inadequate term report that he had turned in, and the student remarked, "I guess I have been spoiled by the new-type examinations."

THE ATTITUDE OF JUNIOR HIGH SCHOOL PUPILS TOWARD ENGLISH USAGE

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To be effective, the teaching of English usage at the high-school level must accomplish at least two results. First, it must establish in the mind of the pupil a clear understanding of a sufficient body of language principles and conventions so that he is able to conform to the standard usage of educated people. In addition, it must develop in the pupil an attitude of responsibility for making his speech and writing conform to such standards. Of these two results, the second is at once the more difficult and the more important. It is more difficult because it involves bringing a number of social forces to bear on the pupil, some of them forces which operate only outside the English classroom. It is more important because the ultimate value of the teaching is to be measured not by what the pupil knows about English usage but by the extent to which what he knows actually functions in his speech and in his written work, especially outside the English classroom.

In a previous article[1] some evidence resulting from an experiment in teaching English usage to seventh-grade pupils was presented to show that it is possible to establish a satisfactory knowledge of usage principles in pupils of this level of maturity. It is the purpose of this article to present evidence resulting from the experiment to show the extent to which it is possible to influence pupil attitudes. Readers of the previous article will recall that during the experimental teaching certain phases of the technique were modified for the specific purpose of developing pupil attitudes of responsibility. Among these modifications, probably the most important were the individualization of instruction and the co-operation of the various departments.

[1] Edith E. Shepherd, "An Experiment in Teaching English Usage to Junior High School Pupils," *School Review*, XXXIII (November, 1925), 675–84.

The evidence presented in the earlier article consisted chiefly of results of tests. Evidence of attitude is to be secured not from tests but from a study of the regular written work of the pupil in English and in content subjects, such as science, history, or civics, and from watching for straws which tell which way the wind blows—chance remarks when the pupil is off his guard, questions before and after class, and spontaneous self-correction.

The following are a few incidents of the latter sort. They were recorded either immediately after they occurred or as soon after as possible. Only one incident reveals the "lesson-learning" attitude, the only such case observed during the year.

1. The pupils were asked to write a paper describing the writing conditions in their various classes. The instructor explained that he wanted the papers in order to determine the various ways in which the pupils were helped or hindered in doing their best written work in other courses. After the class had begun to write, the following conversation occurred between a pupil and the instructor.

Pupil: This isn't a regular paper, is it?—I mean,—it doesn't count, does it?—It isn't a composition?

Teacher (having maintained a puzzled silence to see how far the pupil would incriminate himself): What do you mean by a composition?

Pupil: Well, a paper that counts whether you do your best or not?

Teacher (still puzzled): Counts?

Pupil (becoming slightly impatient of teacher's stupidity): Yes, counts in your mark.

Teacher: We do not have marks. You know that.

The pupil gave up in despair, with only a bewildered "Oh." His paper, which was used in this study, showed him to be one of those who profited least from the year's instruction (Pupil 838). The instructor was interested to note that the rest of the pupils in the class were not sufficiently concerned to listen to the conversation. They looked up attentively at the pupil's first question, but before he finished they were all busily writing again.

2. One of the best evidences of right attitude is the pupil's spontaneous attempt at self-correction. Of course, this does not always reveal itself, but frequently the papers showed by erasures or by the crossing out of words or letters that the pupils recognized

their own mistakes in agreement, capitalization, and the like and corrected them. In the following cases there were no indications that the corrections had been stimulated by any teacher. Eleven pupils corrected mistakes in capitalization. Three other pupils corrected mistakes in agreement of subject and verb, the plural verbs being plainly visible although erased. After making an erasure, probably of a capital, one pupil used the semicolon, greatly improving her sentence.

3. In conversation with the instructor before or after class, several pupils revealed the fact that they were thinking about matters of usage outside the English class:

Just after the class had studied punctuation, Pupil 883 presented his weekly reading card with the remark, "Here's my card. I tried to use all the parenthetical expressions I could. Will you read it and see whether it is correctly punctuated?" It was correctly punctuated, although, as in the next case, the sentence structure was more ingenious than desirable.

Pupil 992 brought his paper from the science class of the previous hour, saying, "I just wrote a sort of interesting sentence in science. I thought you might like to see it. And have I punctuated it right?" This was the sentence: "The storage cell can be easily ruined, and is not easily repaired, while the simple cell, if hurt a bit, which is not often, although it sometimes happens, is easily repaired."

Pupil 619 came before class, pen still in hand, to ask, "In writing 'Tudor rose,' should I begin 'rose' with a capital? . . . . And 'thistle' in 'Scotch thistle'? . . . . And '*fleur-de-lis*'?" Receiving negative answers to all three questions, she smiled and replied, "I thought not." She had been writing a paper in an art class in which these questions had come up.

Pupil 624, coming from an art class, asked poutingly, "I don't see why 'completeness and unity *is*' is wrong. It's a compound subject meaning only one thing, isn't it?" A practice teacher had corrected the mistake, but the pupil needed a little more help in understanding the correction.

Pupil 977 copied from a geography book which he was reading a passage of almost a hundred words in order to bring to the English class a question concerning the use of the semicolon which he thought

wrong. The semicolon was correct enough, but it was used in accordance with a rule not given to the class.

Twenty of the pupils represented in the incidents cited, or 31 per cent of the group, showed clearly that they had the right attitude toward good usage. Furthermore, these were only chance revelations. Is it too optimistic to think that many more evidences were probably unobserved, cases in which the pupil asked information from other teachers or made changes not revealed by erasures? Evidence of another sort is available to show that probably 45 per cent of the pupils acquired the desired attitude toward using what they learned and that 21 per cent more had almost given up the lesson-learning point of view toward matters of usage.

This evidence consists (1) of the results of a comparative study of the accuracy of punctuation in papers written in a science class and of the accuracy of punctuation in papers written in the English class after punctuation had been taught and (2) of the results of a comparison of both of these with the accuracy of punctuation in a paper written before the teaching. In order that the results of the modified technique used in this phase of the experiment might be comparable with the results in the first phase of the experiment, previously reported,[1] especially in its influence on the lesson-learning attitude, the same items were chosen for study—namely, certain items of punctuation—and the same method of scoring was used; that is, the papers were scored as to (*a*) the number of opportunities to use punctuation, (*b*) the number of cases in which the pupil used punctuation correctly, (*c*) the number of cases in which he omitted punctuation, and (*d*) the number of cases in which he misused punctuation. These items were used to find a numerical expression which would represent the ratio of the number of cases in which the punctuation was correct to the total number of opportunities for punctuation. The formula used was $\frac{b}{a}$ or, in cases of errors of the *d* type not included in *a*, $\frac{b-d}{a}$. For example, Pupil 793 had seventy-

[1] Edith E. Shepherd, "A Preliminary Experiment in Teaching English Usage," *Studies in Secondary Education, II*, pp. 91–108. Supplementary Educational Monographs, No. 26. Chicago: Department of Education, University of Chicago, 1925.

seven opportunities to use punctuation in his science paper. He used punctuation correctly in seventy-five cases, omitted punctuation in two cases, and used punctuation in four cases where punctuation was incorrect. Use of the formula gives $\frac{75-4}{77}=.92$.

Discrimination was made between errors of the *c* type (omission of punctuation) and errors of the *d* type (misuse of punctuation), because to a very considerable extent omission is due to carelessness, and misuse to ignorance. Mistakes of the *d* type generally show right attitude but incomplete learning. The pupil who uses a semicolon for a colon, or a semicolon for a comma, or a comma where no comma should be, is not simply careless and negligent. He is giving as much attention to punctuation as should be expected, but he does not understand the matter fully. Errors of the *d* type indicate need for further teaching, not need for a change of attitude on the part of the pupil. Other evidence tends to corroborate this interpretation. Those pupils who are convicted of the lesson-learning attitude on other grounds make more errors of the *d* type in English than in science. Habitually careless pupils seldom make errors of this type. Very few pupils make this type of error before the teaching of punctuation is begun. Frequent occurrence of this type of error is a symptom of the early stages of learning. The pupil is trying to use what he only half understands. In this connection it is worth while to report that forty-eight pupils, or 74 per cent of the group, made errors of the *d* type after studying punctuation. Among the lesson-learners, such errors occur almost entirely in papers written for the English instructor. Among the real learners, they occur with about equal frequency in papers written for science and in papers written for English.

Finally, it is to be noted that the measure of satisfactory attitude is not in the accuracy with which a pupil punctuates any one paper but rather in the close correlation of accuracy of punctuation in science with accuracy of punctuation in English. The pupil who starts at a low level of accuracy in punctuation before instruction and punctuates his English paper with perfect accuracy after instruction but ignores many of the opportunities for punctuation in his science paper is a lesson-learner. His performance is less satisfactory than

that of the pupil who starts at the same level and uses punctuation correctly in only a part of the cases in his English paper but punctuates equally well or better in his science paper. The second pupil has the right attitude; his learning transfers. Given time and teaching, he will learn to punctuate correctly. Unless his attitude is corrected, the first pupil will never do better in unsupervised writing than he has done in his science paper, and he will probably slip back to the level at which the instruction found him.

Table I presents the results of this study of punctuation as a revelation of different types of learners. The pupils have been classified into three groups, which may be rather definitely discriminated in terms of their attitudes toward the content of the teaching and learning.

Group A comprises the real learners, those pupils whose learning transfers to unsupervised writing. These pupils either punctuate better when they write in the science class than when they write in the English class or punctuate about equally well in both situations. For the purposes of this study, the phrase "about equally well" has been defined arbitrarily as follows: "with a difference of 6 points or less between the score in science and the score in English." A difference so slight or a higher score in science than in English is considered evidence that the lesson-learning attitude has been broken up.

An examination of the scores of all the pupils whose learning transfers within this limit shows a considerable range in the amount of learning achieved by different individuals. The group has been subdivided, therefore, into Group A1 and Group A2. Group A1 includes the pupils who scored 85 or higher in both science and English. This limit was arbitrarily chosen as probably indicative of as much accuracy as most educated writers who are not professionally trained attain in conforming to a given standard of punctuation. Certainly, it indicates an intelligent and fairly consistent attention to punctuation, and that, after all, is the goal we are striving for rather than a perfect score. It should be noted that there is great variation in the actual amount of learning even within this group. There are pupils, like No. 801 and No. 572, who utterly ignored punctuation within the sentence before the instruction, and others, like No. 617 and No. 793, who had already learned enough about punctuation to score

TABLE I

LEARNING TYPES AS REVEALED BY PUNCTUATION SCORES IN SCIENCE AND ENGLISH PAPERS

PUPIL	ACCURACY BEFORE INSTRUCTION	ACCURACY AFTER INSTRUCTION	
		Science	English
	A. Pupils whose learning shows almost complete transfer: a difference of 6 points or less between the two scores or else greater accuracy in the science paper than in the English paper		
	1. Pupils who scored 85 or higher in both science and English		
585	11	100	100
617	93	94	97
624	55	95	92
793	72	92	92
992	33	90	92
951	29	90	88
622	10	87	88
852	11	85	86
801	0	88	91
898	12	96	91
702	46	85	88
572	0	85	90
559	62	95	88
	2. Pupils who have learned less but whose learning shows practically complete transfer		
791	33	83	86
961	41	81	77
736	50	77	81
888	11	77	70
730	25	93	80
510	6	86	70
512	10	70	65
742	11	61	67
667	14	77	66
990	0	67	50
845	28	67	50
761	28	80	61
600	41	76	54
813	17	52	46
973	20	67	43
760	15	54	40
	B. Lesson-learners: pupils whose learning does not transfer satisfactorily in unsupervised writing		
	1. Pupils who show only a slight tendency toward lesson-learning and a large amount of true learning		
584	25	82	94
788	76	82	94
935	22	83	91

TABLE I—*Continued*

Pupil	Accuracy before Instruction	Accuracy after Instruction	
		Science	English
	B. Lesson-learners—*Continued*		
892	21	81	96
619	44	82	95
941	0	78	88
704	0	70	80
608	40	70	81
605	20	75	90
864	0	47	60
955	13	52	63
595	4	40	55
724	4	60	80
883	22	56	75
	2. Pupils who are dominated by the lesson-learning attitude, who punctuate with 30 or more points greater accuracy in English than in science		
947	10	50	80
913	36	50	88
507	0	46	80
527	17	50	80
921	20	47	78
560	6	31	67
630	22	37	80
672	28	37	86
919	37	33	73
911	0	27	100
826	25	38	87
	C. Problem cases: pupils who are almost non-learners or whose learning shows unexplainable variations in transfer		
480	50	51	43
977	0	50	20
709	14	100	25
270	22	28	17
750	0	14	14
520	0	33	11
894	33	14	33
838	37	24	25
525	0	0	33
956	22	33	25
539	0	31	20

93 and 72, respectively, before the period of instruction. Under the technique employed, the latter pupils spent relatively little time in the study of punctuation. Pupil 617, for example, studied only three lessons in punctuation: the use of the colon, the use of the semicolon, and the use of the comma to set off an adverbial clause preceding the main clause. Pupils 801 and 572, on the other hand, studied ten lessons in punctuation. After instruction both types had achieved an adequate understanding of punctuation.

Group A2 comprises pupils who have progressed at a much slower rate than have the pupils of Group A1. At the end of the experimental period they had not attained adequate ability to use punctuation. Yet their learning is true learning, as shown by the fact of its transfer. It is interesting to note that all but three pupils of this group use punctuation more accurately in science than in English.

Group B comprises the pupils in whom the lesson-learning attitude still persists to a greater or less degree, as evidenced by the fact that they punctuate better the papers written for the English teacher than those written for the science teacher. This group is even less homogeneous than is Group A. It has therefore been subdivided into Group B1 and Group B2. In Group B1 the lesson-learning attitude still appears to a slight extent. The pupils punctuate English papers with an accuracy greater by from 6 to 20 points than the accuracy shown in science papers. There is evidence of much true learning in the great improvement in punctuation even in the science papers after instruction. Among these pupils, the difference between the scores before and after instruction is large, and the difference between the scores in science and English after instruction is small. The real significance of the scores is probably this: The pupils are learning an expressional skill slowly and with difficulty. It does not yet function perfectly without some conscious attention. In the science class this attention is withheld because consciousness is focused on the subject matter. Perhaps time presses and proofreading is neglected. In the English class time never presses when pupils are writing, and proofreading of every paper is expected and encouraged. In other words, whatever appearance of lesson-learning remains may be largely the result of circumstances which are more favorable to careful work at one time than at another.

Group B2 comprises those pupils in whom the lesson-learning attitude is still dominant. They punctuate better in English than in science by 30 points or more. Real learning may or may not be going on. In five cases (measuring from the score before instruction to the score on the science paper) it is relatively little, 15 points or less; in three cases it is considerable, 33 to 46 points. The outstanding fact is that these pupils consider their ability to use punctuation mainly valuable in their commercial relations with their English instructor. So much attention to punctuation, so much credit. An interesting case of this type is Pupil 507. Before the period of instruction he totally neglected punctuation within the sentence. After instruction he used punctuation correctly in 46 per cent of the cases where it was required in his science paper, but in his English paper he used punctuation correctly in 80 per cent of the cases requiring it. The real value of his learning may be numerically represented by the score 46; his conception of its commercial value in his relations with his English teacher and the marking system will then be represented by the score 80.

Group C is composed of the problem cases in learning. Some of them, like Pupils 838 and 480, have learned nothing. Others, like Pupils 750, 520, and 539, have learned something, perhaps, but nothing commensurate with the time and energy expended by the teacher or the actual practice exercises done by the pupils in class. Probably the instruction has impressed them merely with the fact that it is desired that they use commas more or less when they write. Since these pupils are not subnormal as measured by mental tests, many of them are probably volitional problems. Two pupils have been classified as problem cases who are probably the direct-learner type described by Morrison.[1] They are Pupils 997 and 709. Both show quite unaccountable ability to punctuate in science and inability to punctuate in English.

In order to evaluate the success of the individualized technique employed with these pupils as compared with the group instruction of 1923, the results for both phases of the experiment have been summarized in Table II. In the case of Groups A and C this table shows

[1] H. C. Morrison, *The Teaching Technique of the Secondary School*, Part I, pp. 48–50. Ann Arbor, Michigan: Edwards Bros., 1924 [mimeographed].

about the same percentage of pupils in 1924 as in 1923. The greatest difference is found in the case of Group B2, pupils in whom the lesson-learning attitude is still dominant. This group has been reduced from 43 per cent to 17 per cent. There is considerable difference in the case of Group B1 also, pupils in whom the lesson-learning attitude seems to be giving way to real learning. On the whole, the attitude seems to be much better in 1924 than in 1923, Groups A and B1 enrolling 66 per cent of the class in 1924 as compared with 47 per cent in 1923.

So far the evidence has been examined for what it reveals with regard to attitude rather than for its revelation of achievement.

TABLE II

RESULTS OF INSTRUCTION IN 1923 AND 1924

Group	1923		1924	
	Number of Pupils	Percentage of Pupils	Number of Pupils	Percentage of Pupils
A—real learning	12	40	29	45
B1—some lesson-learning; much real learning	2	7	14	21
B2—lesson-learning dominant	13	43	11	17
C—problem cases	3	10	11	17
Total	30	100	65	100

This same study provides data for measuring the amount of learning through a comparison of accuracy of punctuation before instruction with accuracy of punctuation after instruction. The very general neglect of punctuation by a majority of the pupils before instruction is obvious at a glance and is similar to the situation found in the previous year. The improvement after teaching is also marked in the case of a majority of the pupils.

It seems fair to conclude that individualization of instruction, emphasis on pupil responsibility, co-operation of the various departments in holding pupils to good standards of usage, and, above all, more refined recognition of the nature of the objectives are important factors in establishing desirable attitudes on the part of pupils toward matters of English usage. A brief summary of these factors may be helpful:

1. Instruction should be individualized to meet the specific needs of each pupil, and the pupil should be kept conscious both of his need and of his opportunity to receive instruction.
2. Pupil responsibility for using what is learned in the English class should be emphasized in every possible way.
3. Co-operation of other departments with the English department should be secured and made obvious to the pupils by such devices as the following:
   a) Sending papers from science, geography, art, and other classes to the English room for practice material.
   b) Using such papers rather than, or in addition to, English papers as a basis for securing evidence of pupil needs and pupil progress, and making sure that pupils know that their papers are being so used.
   c) Encouraging pupils to be interested in matters of usage in general and in their own problems in particular.
   d) Encouraging pupils to ask for help in matters that puzzle them —for example, in correcting mistakes marked by teachers of other subjects.
   e) Giving publicity to every phase of co-operation, encouraging and commending it at every opportunity.
   f) Encouraging and commending efforts at self-correction as the prime evidence of approaching mastery, the goal of effort.
   g) Maintaining favorable writing and speaking conditions in other classrooms, especially—
      (1) Time (even for slow pupils) to write without haste.
      (2) Time and encouragement to proofread all papers.
      (3) Requirement of no more than a reasonable amount of written work.
      (4) Clear consciousness in pupils that careless or slovenly work will not be accepted by the teacher.

Unless favorable writing conditions can be attained and maintained in all classes in which pupils are asked to write, the English instructor labors in vain. No satisfactory standards can be established if pupils are forced to scribble as fast as they can to finish the task of the day, to write without time for the thoughtful ordering of

their ideas, and to hand in papers to teachers who they feel are "not particular about English."

When teachers of history, science, geography, and all other subjects in which writing is a part of the learning *demand* careful writing, they can get it, but they must convince the pupils that careless or slovenly writing will not be tolerated, and they must convince by deeds, not by words. Let them first give the pupils time to write without undue haste, and time and encouragement to proofread their papers. Then, let them return all papers carelessly written or grossly incorrect or untidy and keep on returning them until the pupils are convinced that they must be careful. It will not take long if exceptions are never made. The English department can and should do the teaching. Alone, however, it can never establish standards that will be respected. On the contrary, its efforts to do so, unsupported by other departments, tend to create among pupils the attitude that English teachers are "fussy" and that it does not matter how one writes if only one knows the facts. As one of our prize lesson-learners confessed, "I expect to write good English when I have to but not when it doesn't count against me."

MAGAZINES WHICH HIGH-SCHOOL PUPILS READ

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If the writer were asked to name some popular magazines which should be found in the high-school library, he would not hesitate to name such magazines as the *Century*, *Harper's Monthly Magazine*, the *American Magazine*, the *Literary Digest*, the *National Geographic Magazine*, and the *Popular Science Monthly*. Practically every librarian and every high-school teacher would approve the list. High-school pupils ought to read all of them. Their reading would be informing, entertaining, and cultural.

High-school pupils, however, do not read what educators think they should read. Many pupils come from homes where there are neither magazines nor books. Consequently, they do not have the mental background to understand, much less to enjoy and appreciate, such a fine literary magazine as the *Atlantic Monthly*. Such pupils would find more pleasure in reading the *American Boy*, the *Youth's Companion*, and the *Saturday Evening Post*. They need the lighter literature before they can enjoy the heavier literature. By assigning reading in magazines along the lines of the subjects being studied, the teachers can influence the reading of the pupils. Through assignments for reading and reports, the teacher of English can render great assistance in developing a taste for the best literary articles in the magazines. The teacher of history can easily require the pupils to read the *Outlook*, the *Independent*, the *Literary Digest*, and the like for their information, thereby cultivating a habit of reading for information.

After his lessons are prepared, the pupil should have some leisure time to spend in the library. He will then read what gives him the most pleasure. Young people are like many adults in this respect. They want light reading during their leisure time. As a result, pupils do not read to any large extent the magazines that teachers and librarians think they should read.

Some interesting data on magazine reading has been secured from three Missouri high schools by Eula S. Williams.[1] Her data cover the required and the voluntary magazine reading of pupils in the Odessa High School, the Marshall High School, and the University High School of the University of Missouri. The teachers of English literature designated fifteen magazines, any one or two of which must be read. They placed in the library about forty magazines, the reading of which was optional. This reminds one of the teacher who assigns certain references which must be read in the

TABLE I

MAGAZINES READ VOLUNTARILY BY AT LEAST 10 PER CENT OF THE BOYS AND GIRLS IN THE JUNIOR HIGH SCHOOL

Magazine	Percentage of Boys	Magazine	Percentage of Girls
American Boy	38.3	American Magazine	38.2
American Magazine	31.0	American Boy	22.4
Boys' Life	29.2	Ladies' Home Journal	21.0
Popular Mechanics	19.2	Saturday Evening Post	18.2
Literary Digest	18.4	Pictorial Review	16.4
Saturday Evening Post	14.9	Woman's Home Companion	15.4
Ladies' Home Journal	12.8	Woman's World	12.4
Youth's Companion	11.7	Delineator	11.4

preparation of a lesson and designates certain other references which may be read. Only a few pupils read the optional references. Of course, the pupils receive credit for all their reading whether it is required or whether it is done voluntarily.

There were 165 boys and 213 girls in the three schools. The following facts relate to the required list of magazines. Twenty-nine per cent of the boys and 30 per cent of the girls read the *Literary Digest*. Eight per cent of the boys and 5.6 per cent of the girls read the *American Magazine*. Two per cent of the boys and 3.3 per cent of the girls read the *National Geographic Magazine*. A few of the boys and none of the girls read *Popular Mechanics*, the *Popular Science Monthly*, *Scientific American*, and the *American Review of Reviews*. A few girls and no boys read the *Atlantic Monthly*, the *Outlook*, and *Scribner's Magazine*.

[1] Eula S. Williams, "The Relation of Required and Voluntary Reading of Pupils in Junior-Senior High Schools of Three Towns in Missouri." Unpublished Master's thesis, University of Missouri, 1925.

The data on voluntary reading show a change in the order of preference. Table I lists in the order of frequency the magazines read voluntarily by the pupils in the junior high school. The magazines read by less than 10 per cent of the pupils are omitted. It may be noted that among the boys the *American Boy* takes first place and the *Saturday Evening Post* sixth place, that the *Ladies' Home Journal*

TABLE II

MAGAZINES READ VOLUNTARILY BY AT LEAST 5 PER CENT OF THE BOYS AND GIRLS IN THE SENIOR HIGH SCHOOL

Magazine	Percentage of Boys	Magazine	Percentage of Girls
Saturday Evening Post	34.0	American Magazine	52.1
American Magazine	29.7	Ladies' Home Journal	32.3
Western Story Magazine	27.2	Cosmopolitan	27.6
American Boy	26.6	Saturday Evening Post	27.2
Popular Mechanics	20.5	Good Housekeeping	22.5
Whiz Bang	16.0	Woman's Home Companion	21.1
Literary Digest	15.0	McCall's Magazine	20.1
Scientific American	14.5	Pictorial Review	18.9
College Humor	13.8	Delineator	17.9
Popular Science Monthly	12.7	College Humor	17.3
Country Gentleman	12.1	Red Book Magazine	15.0
Judge	12.1	Western Story Magazine	13.1
Radio Digest	12.1	True Story Magazine	12.2
Radio News	10.9	Literary Digest	10.3
Police Gazette	9.6	Photoplay Magazine	10.3
Boys' Life	9.6	Whiz Bang	9.3
Cosmopolitan	9.0	Breezy Stories	9.0
Science and Invention	8.4	Love Story Magazine	8.4
Ladies' Home Journal	7.2	Woman's World	7.9
Forest and Stream	7.2	Youth's Companion	6.1
National Geographic Magazine	6.6	Judge	5.1
True Confessions	6.6	Household Journal	5.1
American Review of Reviews	6.6		
Short Stories	6.6		

is rather popular with the boys, and that the *American Boy* takes second place in the girls' reading.

Table II lists in the order of frequency the magazines read by the senior high school pupils. The magazines read by less than 5 per cent of the pupils are omitted. It may be noted that both sexes are interested in the lower class of fiction and adventure but that the majority read the better types of magazines.

Twelve magazines selected from the most popular ones, as indicated by the preferences of the pupils in the three high schools, are

as follows: the *American Magazine*, the *American Boy*, the *Cosmopolitan*, the *Delineator*, *Good Housekeeping*, the *Ladies' Home Journal*, the *Pictorial Review*, the *Literary Digest*, *Popular Mechanics*, the *Saturday Evening Post*, the *Western Story Magazine*, and the *Youth's Companion*. Where there are two magazines in the same class, such as the *American Boy* and *Boys' Life*, one has been eliminated. Boys and girls would profit by reading all of them while in high

TABLE III

MAGAZINES READ BY TWENTY-FOUR OR MORE STUDENTS IN THE UNIVERSITY OF MISSOURI

Magazine	Number of Times Read	Magazine	Number of Times Read
Saturday Evening Post	105	Harper's Monthly Magazine	38
American Magazine	101	Asia	37
Good Housekeeping	63	Scientific American	35
Literary Digest	58	Time	34
Collier's	49	International Studio	31
Popular Science Monthly	48	National Geographic Magazine	31
Atlantic Monthly	43	American Mercury	30
Ladies' Home Journal	43	Travel	30
Theatre Magazine	43	Country Life	26
Golden Book	38	Bookman	24

school. Their tastes will change by the time they enter the university, and they will prefer other magazines. A study of the magazine reading of university students substantiates this statement. Records of the reading of magazines in the University of Missouri Library were kept for a period of two weeks in February, 1926. Table III shows the twenty magazines read by at least twenty-four students arranged in the order of the number of times read. This table indicates that the university student reads a large number of the worth-while magazines.

A METHOD OF TEACHING CHEMISTRY

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In the December, 1924, number of the *Journal of Chemical Education* is a noteworthy article by Charles H. Stone, of the Boston English High School, on the teaching of chemistry.[1] Mr. Stone describes his efforts to teach his pupils to work thoughtfully instead of mechanically. Since his aim is probably the aim of most chemistry teachers, it seemed to the writer that further contributions concerning this method of teaching might be of interest. The following is a brief outline of a method which the writer has been using for the last four years in the West Division High School, Milwaukee.

One might list numerous aims and ideals in the teaching of chemistry in the secondary school, but they can be summed up in the all-inclusive aim of developing in the pupil the creative habit of mind, of helping him to escape what Rollo Walter Brown in an article entitled, "The Creative Spirit and Art,"[2] describes as the "museum habit" of mind, that habit which makes a person undervalue any idea not ticketed with the label of authority and which makes him afraid to think for himself.

PROJECT METHOD USED

What method, or methods, can be used to accomplish this aim? Many texts and manuals foster the "museum habit." Often the book which gives the greatest number of minute directions is considered the best, and the pupil who can most skilfully grope his way through the labyrinth of detailed and useless information is regarded as the strongest student.

Following instructions is useful in laying a foundation for the

[1] Charles H. Stone, "A New High School Course in Chemistry," *Journal of Chemical Education*, I (December, 1924), 233–38.

[2] Rollo Walter Brown, "The Creative Spirit and Art," *Harper's Monthly Magazine*, CL (February, 1925), 343–50.

study of chemistry. The pupil learns laboratory processes; he learns to think in terms of chemistry; he studies elementary principles. As soon as the foundation is laid, he is ready to choose his own topic and to study it in whatever fashion seems best to him. In the West Division High School the pupils begin work on special topics, or projects, eight or nine weeks before the close of the second semester and spend two double periods a week on them for six weeks. If more time is necessary, the pupil may come to the laboratory at any free period.

DEVELOPMENT OF THE PROJECT METHOD

One of the earliest steps in the development of the method now in use was the qualitative analysis of some simple minerals brought in by two pupils and used in place of an "unknown" taken from a bottle. The next step was the assignment of special work to the few individuals who had finished their college-preparatory work in less than the allotted time. Owing to their superior ability to follow instructions, they were assumed to be superior mentally (perhaps they were) and therefore to be a group on which an experiment could be tried by the teacher. The work attempted was on a very small scale, being nothing more than the planning of an experiment, but the joy of the pupils in the accomplishment of something original flooded with light the question of chemistry-teaching. What they needed was to plan their own work. As soon as possible, the whole course was reorganized with this need in mind.

It should be understood, of course, that "original work" does not mean research work in its proper sense; pupils of high-school age must, for the most part, use methods worked out by older people. What is meant is that they choose their own methods; they make their own combinations of instructions; they do not follow set directions. Occasionally, they cannot find any descriptions which help them, and then they invent their own methods. For example, two boys were studying the iodine content of water from Lake Michigan and wanted some natural substance containing iodine for a control experiment. This need led them to attempt the extraction of iodine from a specimen of preserved kelp. Their effort ended in failure, and they were forced to use a pharmaceutical preparation, but they had

approached their work in the spirit of the investigator, and it is this spirit which should be encouraged and developed.

FACTORS TO BE CONSIDERED IN USING A PROJECT METHOD

The new method of teaching presented for consideration four main factors: (1) time, (2) books, (3) equipment, and (4) the personal equation.

1. *Time.*—Because the new method required more time than did the old method, many of the standard experiments were either omitted or placed in an optional list. Experiments which have little value for the high-school pupil—as, for example, a minute study of the oxides of nitrogen—were given no place. Those which are of interest to a limited number—for instance, a study of the effects of chemicals on textiles—were placed in the optional group. Only those experiments which furnish the pupil with a tool, that is, teach a principle, were kept in the required list. An illustration of this group of experiments is the determination of the magnesium equivalent. It is because these mental tools are essential if pupils are to learn anything more than the so-called "cookbook chemistry" that project work is not begun before the middle of the second semester.

2. *Books.*—With the Public Library near and with an excellent branch of it housed in the school building, the question of reading matter presents no difficulties. If the collection of books and magazines in the chemistry laboratory does not give the information desired, the pupil goes to the branch library; if he does not find what he wants there, he goes to the main library. Sometimes he uses few books, preferring to act as an original investigator. Whether he uses few books or many, he does his reading and helps himself all he can before he asks for help.

3. *Equipment.*—We have adequate equipment of the kind required for the regular course, in which all are doing approximately the same work, but when there are seventy or eighty different pieces of work going on at the same time, and these are being evolved in the active brains of young people who are doing something because they want to do it, the problem of supplying them with apparatus frequently becomes difficult. Therefore, the pupils are told that they may use any apparatus in the laboratory and convert it into

something else if necessary. It must be admitted, however, that the disproportion of their zeal and their judgment sometimes results in the wrecking of a good piece of apparatus when something simple would have served as well.

4. *The personal equation.*—The question of physical equipment presents fewer difficulties than does the personal equation. Since one purpose in using the project method in teaching chemistry is to develop in the pupil the creative spirit, the pupil is urged to make his own selection of a topic, basing his choice on some subject in which he is honestly interested. Sometimes pupils say that they are not especially interested in anything and ask, "What do you want me to choose?" It is then the task of the teacher to arouse a desire for a choice. Often all that can be done is to suggest several topics in the hope that one will appeal more than do the others. Even when one's best has been done, weak pupils frequently make their choices from suggested topics in grab-bag fashion.

A second purpose is the development of judgment, and in this case the situation is almost as difficult as in the first case, although the results are usually more satisfactory. This is the guidance of the overambitious pupil. Often he chooses a topic far beyond his abilities, and the problem is to lead him to give it up because of its impossibility and not because he is forbidden to work out his own ideas. Coercion, or even a wrong notion that he is not a free agent, is ruinous to the whole plan, since there is no joy in work to which one is driven. The majority, however, choose sensibly and work out projects in which they have vital interests: For example, a girl who expects to become a pharmacist chose the manufacture of drugs from medicinal herbs, and a boy who wishes to become a scientific farmer made a soil analysis.

After the subjects are chosen, the work moves on smoothly until the inevitable period of failure and discouragement sets in. The tiding over of this period requires much care, for failure in his chosen work is more disastrous to a pupil than is failure in a set task. If he fails in a dictated piece of work, his natural thought is, "I didn't want to do it, anyway. I could do it if I wanted to." If he fails in what he himself has planned, he loses self-respect and self-confidence. Recognition of this attitude of mind leads to the advice to the pupils

not to change their topics after the first week of the work but to finish what they have begun.

DESCRIPTION OF TOPICS

A favorite topic is "Chemistry in the Home." Usually two or three pupils combine on this project. Once it was used by all the classes. They built a small house, dyed the draperies and rugs, analyzed the food that was placed in the pantry, found the fuel value of the coal in the coal-hod, made matches, analyzed and manufactured the cosmetics that stood on the doll's dressing table, and analyzed the clothing worn by the doll. Mural decorations were made by pupils studying art as well as chemistry. The paints used were made from the raw materials, as was also the paint used on the outside of the house. After the house had been arranged, it was decided that a lawn was needed. Soil was analyzed and found to be lacking in plant food. A fertilizer was then manufactured and added to the soil. How much it could have aided in the growth of grass, we were unable to judge, for it was too late in the year for experimentation. During the next year, however, an experiment in fertilization was tried. The experimenter used rhubarb for his tests. He treated one plant with a commercial fertilizer and another with a fertilizer of his own manufacture and ran one blank. To his great satisfaction, he proved that he had made a fertilizer which was the equal of the commercial article and also, through his control experiment, that fertilization is necessary to plant growth.

One of the most interesting topics was "A Chapter from Robinson Crusoe." Three boys worked on this project. The "island" was discovered on a large serving tray, and, although to a literal-minded observer it may have appeared to be a small section of a desert, to the boys who could see below the surface it had the geological structure of one of the South Sea Islands. That this structure was there they knew, because they searched geographies, geologies, and the *National Geographic Magazine* until they knew what lay beneath the sand. Their project was to manufacture from the constituents of the soil various substances needed by shipwrecked mariners. For instance, they wanted some gunpowder. Walking about the island one day, they came upon a sulphur deposit near the mouth of an ex-

tinct volcano. Carbon they made by destructively distilling wood. From burned seaweed they extracted potassium carbonate. All that was lacking was potassium nitrate. Fortunately, they discovered sodium nitrate on another island, and, treating it with their potassium carbonate, they soon made crude potassium nitrate. Here, then, were all the ingredients needed for a high explosive, and, as they had saved a copy of their high-school chemistry manual when they were shipwrecked, they easily learned the proportions to use in making the mixture. Of course, had it been necessary, they could have tried different quantities, but the difficulties of manufacture were so great that they did not wish to waste any material.

EFFECT ON PUPILS AS INDIVIDUALS

The amount of initiative which develops is astonishing. One boy needed some platinum tetrachloride. Naturally, because of the price which this article commands, the laboratory is not supplied with it. The boy conceived the idea that, if he had some platinum, he might make the salt. Scraps of platinum wire remaining from flame-reaction work supplied him with enough material to make the desired reagent. He wrote up this piece of work in addition to his main topic, which was the recovery of cerium and thorium salts from the ash of Welsbach mantles, and called it "Necessity Is the Mother of Invention."

The expedients used in devising apparatus and in overcoming difficulties prove that means can be found to accomplish what pupils really wish to do. For instance, two boys needed a furnace in which they could concentrate heat on a refractory substance. Of course, there was no such piece of apparatus in the laboratory. They took a sand crucible about four inches in height, went to one of the manual-arts teachers for advice and tools, and soon brought back the crucible with a hole neatly drilled through the bottom of it. The material with which they were working was then piled on a hollowed block, which was a part of a soldering outfit, and the crucible inverted over it. The blast flame was then directed through the hole in the crucible, and in a short time the fused mass was ready for the experimenters.

Apparently a little time is lost toward the end of the semester,

because, as the experiments near completion, the pupils become interested in one another's work and leave their own work to admire that of their neighbors. This admiration really helps, however, because it gives the pupils a measure of their own success. After looking at a very good exhibit, one boy said, "Gee, mine looks cheap. I'm going to make it better."

DEVELOPMENT OF COMMUNITY SPIRIT

In order to make the work an affair of the community as well as of the individual, such matters as affect everyone are usually decided by vote. For example, in 1924 the classes voted to make a permanent record of their work in the form of a booklet for the use of succeeding classes. They included in the articles which they wrote the sources of their information and the methods which succeeded, as well as the methods which failed when it seemed that a discussion of failure would help the next worker. Each pupil who could do so copied his own notes on the typewriter. Pupils in the commercial department copied the notes of those who did not know how to use a typewriter, using the notes for practice work. A girl who was studying art as well as chemistry made a cover design and bound the chapters into one volume. The title of the class book is "The Crucible." Each pupil suggested a title and wrote a brief article in favor of his suggestion. A committee chosen by the class studied the suggestions and selected several for further consideration. These and the accompanying explanations were read in each class and voted upon. The winning title was proposed by a Hawaiian boy who had been in this country only a few years but who, nevertheless, grasped the idea of what we were trying to do in our project work.

Another community affair is the annual exhibit. This is a real exhibit. The work of every pupil is shown—good, bad, and fair. We do not select; we show everything. The exhibit was established by vote but has become a tradition. It makes a great deal of extra work for the teacher, but, to compensate for that, it leads the pupil to make a good finish at a time when enthusiasm naturally flags a little.

IS PROJECT WORK JUSTIFIED?

In deciding whether project work in chemistry is of such value that it is worth while to continue its use and to enlarge its scope,

there are two factors to be considered: (1) the immediate results and (2) the foundation for future work.

The immediate results desired have not been completely attained, but they have been approximated. Pupils cover more work than they did under the old method and with less struggle. They develop resourcefulness, power of thought, originality, intellectual honesty, and intellectual self-confidence, and there is a marked gain in their realization of their responsibility as members of a community.

We have, of course, no measure of the value of the project method of teaching in preparing the pupil for the business world, although the qualities mentioned seem to offer a rational approach to the solution of the so-called "real" problems of life. Nor can we estimate quantitatively the effect of this or that method of instruction on the preparation of pupils for continued study, either in high school or in college. We can, however, judge somewhat on the basis of the not unfavorable reports which come to us concerning the ability of the pupils. Also, the reports from the pupils themselves afford some information. Both reports indicate that the project method gives better preparation than does the standard method, that it emphasizes teaching the pupil rather than the subject, with the result that the pupil knows both how to think and how to work. Therefore, it seems advisable not only to continue project work in teaching chemistry but also to stress it more strongly in the future than it has been stressed in the past.

ECONOMICS IN THE HIGH SCHOOL

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By "social science" is meant that body of facts and principles which govern men in their dealings with one another. Economics is one of the divisions of this science. It deals with the organization erected by man for the satisfaction of his wants. In view of the fact that most of man's time is occupied in economic activity as either producer or consumer, it seems remarkable that the teaching of economics in the high school should have been postponed until within the last decade. Yet it was not until after the report of the Social Studies Committee of the National Education Association in 1916 that the traditional program of history and civics began to give way to the more liberalized social studies, including economics.

The world-war hastened the movement. People who hitherto had been unconscious of any social bonds suddenly awakened to a realization that their lives were bound in countless ways to those of people in their own country and in the world at large. The schools were, of course, called upon to do their share in furthering the cause of the Allies. Administrative officers were deluged with books, monographs, and pamphlets on subjects related to war activity. A large part of this material dealt with methods of limiting consumption and of directing productive resources into war activity. In order that this might be done more effectively and in order that the reasons underlying the rationing program might be understood and the program carried out with enthusiasm, material was introduced not only in the high schools but also in the elementary schools setting forth in simple language the principles on which the economic system is organized.

The war therefore acted as a decided stimulus to the movement already under way, the purpose of which was to supplement the traditional formal history and civics courses with work in social science. After the armistice the interest in social studies continued, but

a readjustment was made in content and emphasis to conform to the problems of reconstruction left as a result of the war. The emphasis on economics gave way in large part to an increased interest in sociology and political science. The recommendations made by the Social Studies Committee of the National Education Association in 1916 that the work in formal history and civics (government) be diminished and that courses in community and vocational civics and problems of American democracy be added were accepted and changes made accordingly. In line with the new ideas, a number of textbooks appeared embodying in greater or less degree the principles laid down by the various committees that had been at work reducing the more general principles enunciated by the Social Studies Committee to concrete course material.

The net result has been the introduction of several types of courses into the high-school program of studies. In some states or localities courses in vocational or community civics are given in the ninth and tenth grades, followed in the eleventh or twelfth grade by a course in problems of American democracy. The texts used in this course usually include a more or less general assortment of material intended to familiarize the pupil with the social institutions of the United States and to make of him a "better citizen." In other places the advanced social-science work consists of half-year courses in sociology or economics or both. In Iowa economics seems to be the usual course in social science, offered for the most part in the senior year.

In view of the circumstances under which the social sciences were introduced into the program of studies, it is not surprising that the results have not been all that could be desired. Teachers cannot teach what they do not know. The social sciences were given a place in the high-school program before a body of teachers had been trained to present them. The feeling prevailed and still prevails to some extent that anyone who has had a course or two in history can teach the social sciences. The terms used in these subjects are, for the most part, familiar to everyone; therefore, no special training seems necessary to direct the study of the text. The material appears interesting and should be read and assimilated in leisurely fashion by anyone without much effort. Let the history teacher take

the class in economics; he does not have a full schedule anyway. Or let the athletic coach teach it; most of the pupils in the class are boys, and they need someone who knows how to keep order. Did the history teacher or athletic coach ever have any work in economics in college? That does not matter; he can easily read up on the subject and teach the class how business is carried on. Anyone with ordinary intelligence can do it.

Such has been and still is the attitude of many teachers and administrators toward the social sciences, and this attitude is largely responsible, in the writer's opinion, for the meager results shown in this field thus far. In the case of economics, which is the subject under discussion at present, it is extremely doubtful whether the effort spent in teaching it in the high school under present conditions is worth while.

In attempting to evaluate the results of the teaching of economics in the high school, it seems best to inquire into the purpose of the subject—its reason for being. The literature on the teaching of the social studies contains little that bears on the objectives of economics as such. Perhaps the best statement is that by Henry R. Burch.[1] The final paragraph of this statement reads as follows:

> In concluding a study of elementary economics, the pupil should be acquainted with some of the more important programs of economic reform at present engaging the attention of social workers. The student should, at the end of the course, be in a position to see just what social workers, single taxers, socialists, organized-labor advocates, and government-regulation enthusiasts are trying to accomplish. The ideal of individual and social welfare will in this manner be impressed upon his mind and serve as an inspiration for his life-work.

In view of the fact that the statement of which this paragraph is a part is intended to be not a concise expression of the objectives of teaching economics but only the "point of view" of the subject, it deserves commendation for the clearness with which the purpose is accomplished. It is a vast improvement over the vague language in which the aims of the social studies in general are often expressed.

A more explicit statement of the objectives of economics is needed if we are to have any basis for judging the effectiveness of the teaching of the subject. We must think in terms of social utility.

[1] Henry R. Burch, *The Reorganization of Secondary Education*, pp. 24–26. Bureau of Education Bulletin No. 41, 1913.

What condition in society exists which a knowledge of economics may improve? Or what social need may be met by the teaching of economics? Simply to disseminate information about economics phenomena is not sufficient. No social science could be justified on this ground alone.

If we examine the history of the United States, we discover that practically all the important problems that have arisen have been economic in character. The problems of today, also, are largely economic. An overwhelming majority of the planks in the platforms of the leading parties in the last election dealt with economic questions. It has been said that 95 per cent of the business of the courts in the United States involves questions relating to property. The common element in most public questions is economic; the point at issue is how, with the available resources, the wants of the people may best be provided for.

In a democracy the decision presumably rests with the people—the rank and file. The voter is called upon to exercise judgment on economic questions. To do so intelligently, it will be granted, he should have some knowledge of the principles involved, and yet the American voter is notoriously ignorant of these principles. The need for an understanding of economic principles and the general lack of such an understanding on the part of the average citizen are the social justification for the teaching of economics in the high school.

The explicit purpose of the course in high-school economics is thus seen to be to lead pupils to form correct judgments on economic questions in order that a sound public policy with reference to these questions may result. The achievement of this purpose involves, of course, subsidiary aims or objectives. Among these would appear the following: (1) The pupil should be led to an understanding of the scope of economic science. (2) He should become acquainted with the machinery by which society at present produces and distributes economic goods. (3) He should become familiar with the principles or laws governing economic activity. (4) He should become cognizant of the leading economic problems of the present day and should be encouraged to view them from the social standpoint. (5) He should be led to regard the present social order as dynamic

and should be encouraged to examine its institutions critically. Opinions may differ as to the details or the relative importance of these aims, but it is fair to assume that, in general, they would be accepted as sound.

To what degree is the work in economics in the high school fulfilling its purpose as here stated? Of course, no positive answer to this question can be given. However, in view of the general attitude of school authorities toward the subject and the resulting indifferent presentation of it in the classroom, entirely satisfactory results could not be expected. The reactions toward economic questions in the case of students who have pursued the work in economics in the high school confirm this view. In discussions of such questions in groups of college students of economics composed of "have's" and "have not's," the latter do not appear to be at a disadvantage. In fact, it is pretty well agreed among college teachers of economics that those students who have had no previous courses in the subject get on better than do those who have had such courses. The latter must often overcome the handicap of imperfect or superficial, not to say incorrect, generalizations.

In this connection a study recently made of the work in the sophomore course in principles of economics at the State University of Iowa may be of interest. Two hundred and four students were tested at the beginning and at the end of the school year. The test used was composed of fifty questions. Part I of the test consisted of twenty-five objective questions dealing with economic history, facts, and attitudes. Part II was composed of twenty-five propositions involving popular economic fallacies. The students were not told that the propositions were fallacious but were asked to mark them true or false. If a student decided that a proposition was false, he was asked to state the reason concisely. The scores obtained on this test revealed no superiority in knowledge of fact or principle, either at the beginning of the year or at the end, on the part of those students who had had previous courses in economics. The results of the test confirmed the previously formed opinion of the teachers on this point.

It seems clear, therefore, that the teaching of economics in the high schools of Iowa is not successful to the point where the mate-

rial taught functions in the lives of the pupils. The reason for the presence of courses in economics in the high-school program then disappears. Whatever may be the reasons assigned for the teaching of other subjects, social utility alone can be the justification for economics; social utility in this case consists in the increased ability of pupils to think clearly on economic questions.

It has been suggested that one factor responsible for the meager results in the work in high-school economics is the lack of properly trained teachers. This deficiency can, of course, be made to explain unsatisfactory results in any subject. In the case of economics, however, the necessity for adequate training is unusually important. The subject matter is highly abstract, and the principles involved require keen insight and close thinking for their mastery. Far from being of the easy-chair, leisure type of reading, the text in economics requires the closest attention and concentration. Until teachers of economics are required to do serious and thoughtful work in the subject preliminary to presenting it to high-school pupils, little real good will be accomplished so far as either the pupils themselves or society at large is concerned.

Another difficulty in the teaching of high-school economics is the immaturity of the pupils. The boys and girls who pursue the subject in high school are usually from sixteen to eighteen years of age. Persons of this age lack the life-experience necessary to a complete understanding of the economic problems of society. If the teacher is inexperienced and untrained, the task is indeed a hopeless one.

Still another obstacle in the way of good results is the method of approach to the subject. The material is usually presented in the conventional form for the purpose of building up in the pupil a logical, well-rounded view of the economic organization. At some time in the pupil's life such a body of theory will be appropriate and useful. At the high-school age, however, the logical presentation may well be sacrificed for a consideration of live problems, such as will aid the pupil in critical analysis. To be sure, some theory or principles must be presented, but the chief purpose should be to bring the "reasoning powers" of the pupil to bear on the important economic questions that keep recurring in our present society. It is better, for example, that the class be guided to a critical examination of one

such question as the tariff, the railroads, socialism, or what not than that its time be spent in trying to master a systematic body of diluted theory. As a matter of fact, a semester is sufficient for investigation into more than one such question. A library and the guidance of a qualified teacher are essential to success.

To summarize, then, the work in economics was introduced generally into the high-school program of studies during war times, when the chief end in view was to inform people of the organized methods of production for the purpose of controlling consumption and increasing production. Under the circumstances, the social point of view was a secondary consideration. People who were not trained for the work were called upon to teach the subject. The material was presented very much as it is organized for college classes except that an attempt was made at simplification. So far as it seems possible to judge them, the results have failed to measure up to the test of social utility.

What may we expect as to the future of economics in the high school? Some would say that the high school is no place for it, that it belongs to the college. The writer's opinion is that this view is wrong. Economics is too important a subject to be neglected by all except the few who go to college. Even in the high school those who study it are only a small percentage of the school population. If we are to have a democracy in fact, the people who vote must be able to appraise the institutions of the country intelligently. Such an appraisal requires an insight into the principles governing economic activity which is seldom acquired except through patient study. It is clear, therefore, that a real need for the teaching of economics in the high school exists and that this subject should be given attention commensurate with its importance. It is also clear that the work in economics needs to be vitalized so that it may actually function in the lives of the pupils. Only on this basis can it justify its existence.

THE PROVISION OF MORAL EDUCATION FOR PUPILS IN THE SENIOR HIGH SCHOOL

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Only a very cursory reading of newspapers, magazines, and professional school journals would be required to discover that one of the most dominant problems engaging the thought of present-day educators is that of providing suitable means for the moral education of our young people. However highly teachers may rank the importance of gaining abstract knowledge or of acquiring the technical training necessary to fit one for a vocation in life, no earnest man or woman interested in the development of boys and girls would rate these two objectives higher than that more fundamental purpose of training boys and girls to live. Those of us who believe that the term "education" comprehends the whole development of the individual, including his socialization no less than his accumulation of knowledge and his acquisition of arts or skills, recognize moral growth not as a separate compartment of education but as a quality of education. Moreover, we conceive moral education to be a part of, not apart from, all education, a paramount purpose that must penetrate every phase of school activity.

As a matter of fact, the main end of education in Colonial times was moral and religious, the two phases at that time being considered a single purpose. Selections for reading were determined on the basis of their moral sentiment rather than their literary merit. Indeed, a study of the early history of education in America abundantly reveals the ethical purpose of its concept.

Likewise, today, wherever educators congregate, at a meeting of the National Education Association or at a small district convention, the stress on moral objectives in education reappears. Speeches by the score, articles by the hundred have emphasized the need for constructive plans along this line.

In spite of the recognition of its importance, distinct difficulties

hinder the provision of adequate means of moral education for high-school pupils, the specific problem to be discussed in this article. These difficulties group themselves under four main headings, which need mention, if not analysis, before the chief aspects of the problem can be considered.

In the first place, the secularization of the public schools, which commenced in a tentative way early in the Nineteenth Century as a result of the sacred regard for religious liberty, created the first barrier against ethical education. While most persons today distinguish between religious education and moral education, they were at first so closely knit together that the disappearance of the one tended to crowd out the other.

In the second place, the complexity of the large modern high schools has complicated the situation. The very nature of moral questions makes their consideration *en masse* less satisfactory than the consideration of topics of history, literature, and mathematics. Furthermore, the scope of the modern high school, with the constant introduction of new content into the curriculum, has overcrowded the schedule to such an extent that it has been easy to overlook anything not specifically provided for in the course of study.

In the third place, the attitude of modern youth toward moral instruction has created another obstacle. So much has been written on this topic that a discussion of the mooted question would be out of place here. In passing, it may be affirmed that, undoubtedly, recital of the precepts of a few generations past would be regarded askance by typical high-school boys and girls of today; their suspicions would be aroused and their antipathies created by conventional moralizing of the quality accepted unquestioningly by their grandparents. Nevertheless, experience with present-day young people has not revealed an aversion to straightforward consideration of ethics when presented in a manner that conforms to the highest standards of teaching any subject.

In the fourth place, the current attitude of teachers and other adults toward moral questions has added a new complication to the issue. At the time Noah Webster issued his spelling book and presented a moral catechism therein lines of right and wrong were still almost as sharply drawn as in the Puritan age itself, but the free

scientific philosophical inquiry of the latter part of the Nineteenth Century altered moral as well as intellectual standards. Abandoning the concept that the sinner sins in daring to transgress an immutable moral law, most students of social and moral problems now conceive maladjustments in our social order as the result of infinitely more complex and far-reaching circumstances. Accordingly, the conventional ethics of the Victorian era which yielded itself to a glib interpretation is now supplanted by a social philosophy that cannot be so readily passed on to a rising generation, especially when that generation is making very definite modifications in standardized traditions.

Thus, with this brief statement of the nature of the problem, let us pass to the important aspects of the question of providing for moral education in the senior high school.

Current literature abounds in books and articles that discuss the question. By common agreement, most writers recognize moral guidance as a predominant factor in education. One conceives it to be the chief work of the principal and urges the use of assemblies for instructional and inspirational work in character education. Another places on the teacher of literature the responsibility for inspiring high ideals. Another holds that social studies yield the chief material for moral education; still others would direct the attack through speech education or manual training; indeed, practically every subject in the curriculum is urged as the medium for attaining this objective. The majority of educators accept the chief burden of the task as an obligation of the public schools, conceding the failure of the home and the church. One thoughtful writer[1] has analyzed the social situation more critically, however, and holds that the campaign for moral education must begin in the world of action and not in the school.

Accepting the popular creed that the schools must certainly play a major, if not the dominant, part in this issue, the writer sent the following questionnaire to the leading senior high schools of California in an effort to ascertain what has been done in these schools along the line of moral education.

[1] Edward O. Sisson, "Moral Education Again to the Front," *School and Society*, XXI (May 9, 1925), 543–48.

QUESTIONNAIRE ON THE PROVISION OF MORAL EDUCATION

School _____ City _____

Information furnished by _____ Position _____

1. The policy of this school is to provide for moral education
   by { direct instruction / indirect instruction }
2. Time for consideration of the question is given in faculty meetings—
   a) Regularly once a { week / month / term / year }
   b) { When emergencies arise / When there is nothing more urgent / Never }
3. Moral instruction is provided through—
   a) A special class called _____
      (1) { Open to all pupils / Required of all pupils }
      (2) Given in _____ year
      (3) Text used: _____
   b) Home-room period
      (1) Method used: _____
   c) Teachers in all classes
   d) Stated assemblies
   e) Occasional assemblies if the speaker chances to bring it in
4. Character and conduct tests have been given
   a) Test used: _____
   b) To _____ grades
   c) Results used: _____
5. Student-body organizations contribute to moral education—
   a) By use of the honor system
      (1) In vogue how long?
      (2) Administered by _____
   b) By use of the merit system
      (1) In vogue how long?
      (2) Administered by _____
   c) Through self-government organization
      (1) In vogue how long?
      (2) Administered by _____
   d) By moral requirements for student-body offices
   e) By general attitude toward school traditions and standards
6. College or business recommendations are dependent on character rating.

Any additional suggestions regarding the present situation or future plans will be most welcome if written on the back.

Fifty-four questionnaires were sent, and forty-five replies were received. Information was furnished by thirty-six principals, six vice-principals, one department head, one attendance officer, and one school secretary.

Only one reply to the first question indicated that the policy of the school is to provide moral education by direct means; the report did not specify the means used. Seventeen schools indicated that both direct and indirect instruction are provided; in five of these cases the statement was made that direct instruction is occasional, that indirect instruction is continuous, or that emphasis is on the latter. Twenty-five schools reported only indirect instruction. Two schools did not answer the question.

Twenty schools reported that moral questions are considered in faculty meetings when emergencies arise; eight schools, at such times but also at regular intervals; fifteen schools, regularly. The replies from the last twenty-three schools show variation in regularity as follows: Twelve schools consider moral questions monthly; one, twice a month; five, occasionally; three, twice a term; and two claim to consider moral issues at every faculty meeting. Two schools failed to reply to the question.

The answers to the question as to how moral instruction is provided revealed more valuable information than did the answers to any other question. Five schools checked (*a*) "a special class"; twenty-four schools checked (*b*) "home-room period"; thirty-nine schools checked (*c*) "teachers in all classes"; twenty-one schools checked (*d*) "stated assemblies"; seventeen schools checked (*e*) "occasional assemblies." This question was answered by all the schools.

It is significant that only through indirect instruction by teachers and more or less chance introduction of the subject into assembly programs is any provision made for moral education in seventeen schools. On the other hand, twelve schools reported variations of specific plans well worth noting. A brief summary of these follows:

One school reported a special class, called "B 9 English," required of all pupils. This class uses a special bulletin issued for the purpose, dealing with topics of honesty, sympathy, loyalty, obedi-

ence, and the like. In this school, also, daily bulletins serve to guide home-room discussion along these lines.

Two other schools direct home-room discussion through weekly bulletins suggesting topics, treatment, application, etc.

Three schools reported classes in citizenship. In one school the work is given in the first and second years; in another it is designed for the part-time pupils and strongly emphasizes moral problems; in the third school the class is made up of those whose citizenship records are below 70 per cent. In the school last mentioned a citizenship credit plan, similar to the more widely used merit system, prevails.

In three schools classes are conducted by the principal, in one case for eleventh- and twelfth-grade pupils and in another for boys and girls of any year, the dean assisting the principal. In the third school the so-called "Principal's Conference" is for pupils in Grades IX, X, and XII A, the Los Angeles monograph on *Character and Conduct* being used as the text.

Two schools follow the plan of having an occasional specific topic assigned for discussion in individual home rooms.

More elaborate than any of the plans outlined is that of a school which schedules group meetings for the entire school during one period on Monday. At that time the principal meets the Seniors for a discussion of "Life's Values"; the vice-principal meets the Juniors for a discussion of self-government; and four teachers meet four divisions of the Sophomores for the consideration of etiquette, good citizenship, the technique of study, and good sportsmanship.

Not one school reported the use of character or conduct tests; one school indicated the prospect of introducing them. If tests are devised that shall adequately measure that which they aim to measure, this situation may be changed. Until such time, the use of these tests seems rather futile.

Less information was given on the contribution of student-body organizations to moral education than on faculty contribution. Nevertheless, the replies to Question 5 yield interesting data. Eleven schools reported the use of the honor system. Twenty-seven schools reported the use of the merit system; only one reported its

abandonment. Twenty-eight schools reported the use of self-government. Thirty-three schools reported moral requirements for student-body offices. Thirty-seven schools reported the recognition of school traditions and standards along moral lines.

In several schools in which the merit system is used, a general mark of 80 per cent in citizenship is required of all candidates for student-body offices.

Four schools reported no contribution on the part of student-body organizations save "general attitude toward school traditions and standards."

Finally, in the case of the sixth and last question, thirty-seven schools reported the dependence of college or business recommendations on character rating. As in the case of requirements for student-body offices, most schools using the merit system depend on the citizenship ratings involved therein as the criteria for such recommendations.

Two schools keep on file with the counselor or registrar "Traits and Attitude Rating." One school requires every recitation teacher to check the following on the quarterly certificates of promotion:

Recommending		Not Recommending
_____	Attendance	_____
_____	Industry	_____
_____	Responsibility	_____
_____	Concentration	_____
_____	Initiative	_____
_____	Courtesy	_____
_____	Co-operation	_____

The reports indicate (1) a general interest in moral education, as evidenced by the large percentage of prompt replies; (2) an almost universal policy of providing moral education through indirect instruction; (3) a tendency for faculties to consider moral issues only when emergencies arise; (4) a dependence on the home room as the chief medium for providing moral education; (5) an exceedingly variable provision of specific mediums and methods in moral education; (6) a wide use of the merit and self-government systems.

Thus, from this limited investigation of current attitudes and practices in the leading high schools of California and from the literature relating to conditions existing in the high schools throughout

the country, the situation yields itself to analysis and rather significant evaluation.

Practically all school administrators unite in their appreciation of the major importance of moral education but appear to divide themselves into three main groups: (1) those who believe that all teachers are responsible for moral education and, so believing, frequently call the attention of their teachers to the importance of this part of their duties; (2) those who take it for granted that all teachers appreciate this sense of responsibility and need no special guidance in its application; (3) those who believe so earnestly in the urgency of the whole undertaking that they take an active part in the supervision and even direct provision of moral education.

If the administrators are the leaders charged with the particular responsibility for directing the educational program in their schools and if moral education is to be accepted as a dominant part of education, can the direction of this phase of the program be left to chance? Are administrators justified in possessing a less clear notion of the provisions being made in their schools for moral education than of the instruction given in quadratic equations or Caesar's Gallic Wars? The danger of the situation too often lies in the schools in which the principals may be classified in the second of the groups cited, those who take it for granted that this vital matter is being adequately fitted into the plan and purpose of every teacher but who, themselves, assume no constructive responsibility that shall guarantee this assumption. In order to avert the hazard too likely to result from such trusting neglect, wise administrators will doubtless have to provide time in their already crowded schedules for directing, or seeing that there is directed, a definite, constructive program along these lines. In other words, no principal can safely assume that the teachers of his school are seizing every opportunity to give moral instruction to their pupils merely because they should. It becomes the principal's responsibility as the inspirational leader of the school to assure himself that such is the case and to guide, without dictating, the course of this procedure.

It appears that administrators must not only accept such active guidance in this matter but also focus emphasis through certain specific activities.

The writer would not advocate a special class for moral teaching in every school. While in many schools such classes have distinct value, too often the allocation of the subject to a definite class tends to remove the topic from other classes in which it merits consideration. As has been well said, "there can be no independent curriculum for character-building. Whatever is to be accomplished in character-teaching must be done through the regular school subjects, the organization interest, and school activities."[1] In the regulation of requirements for student-body offices, in the promotion of school activities, and in the whole complicated pattern woven by the myriad threads of high-school life, the golden strand of ethical ideals must ever form the warp.

Nevertheless, even though this broad, general provision be made, just as parliamentary procedure needs to be studied somewhere in order to be applied everywhere in meetings of organized groups, so most schools will find that this indirect and fundamental purpose needs to be supplemented by a separate class or discussion group. There are many ways in which this may be arranged, but the most practical medium is probably one of the following: the home room, a voluntary-discussion group conducted at an activity or noon period, a compulsory group for pupils of a particular grade, or the school assembly.

In a majority of schools the home-room period will best serve. Here the pupils meet not as pupils in English, stenography, or physical science but as citizens in the school. The very organization and atmosphere of the home room lends itself to the consideration of such questions as honesty, industry, courtesy, and self-reliance. Properly used by a wise adviser who makes it his business to open spiritual windows to the members of the group, this daily period can vitalize the whole tone of the day. However, all teachers by no means possess either the capacity or the desire to achieve this result. In very few instances will the ideal use of the home-room period occur. Inasmuch as each teacher usually has a full load of other classes and duties regarded ordinarily as being of more consequence than the home-room period, this portion of his responsibility too

[1] *Character and Conduct*, p. 11. Course of Study Monograph of the Los Angeles City High Schools. Los Angeles: Board of Education, 1923.

often receives a minimum of attention. In order to guard against neglect of this opportunity on the part of teachers, both those who lack initiative and those who lack interest in utilization of the time, principals or faculty committees in charge will need to provide some definite plan for moral education. The plan should not be so fixed and rigid as to hamper the creative genius of the adviser; but, on the other hand, it cannot be so general and undefined as to require complete formulation by the teacher. The former will put uniformity in the place of the freedom so necessary in such a project, while the latter will result in complete neglect on the part of a considerable proportion of the teachers. A daily, weekly, or even monthly bulletin from the principal or from a faculty committee working with him, suggesting, not dictating, lines of approach and topics for consideration will go far toward guiding teachers in their moral leadership. Occasional reference to home-room policies in faculty meetings and interchange of experience will serve to secure improvement in the use of this period.

Voluntary-discussion groups offer even greater possibilities than does the home-room period. This means of furthering moral education is limited because such groups will enrol only a portion of the student body, too often the boys and girls least needing guidance. On the other hand, the very voluntary nature of the organization and the fact that such groups can enlist leadership of the highest caliber in the school serve as arguments in their favor. Principal, vice-principal, or particularly fitted teachers can render invaluable service to such groups. That young people of high-school age will respond to frank and free discussions of moral questions under the leadership of persons who are wise in their supervision has been unquestionably proved. Even though the actual membership of such a group be small, its influence on the whole school can be far-reaching. Indeed, an important feature in the direction of such a plan should be the outflow of its results through wider channels. For example, a practical method would be for representatives of various home rooms in the central group to report certain discussions to their respective home rooms or to lead discussions in their home rooms.

If moral guidance is to be accepted as a primary function of the

home room, this objective can be attained both through faculty direction of the daily period and through pupil reports on the activities of the voluntary-discussion groups. The value of either or both possibilities lies in the fact that, through the smaller units, all the pupils in the school may think together along moral lines. The potency of this procedure can hardly be overestimated if all forces wisely combine in its operation. Might not the effect of such co-operative effort avert the sort of immorality wave that occasionally sweeps over a school? Certainly, the experiment is worth trying.

The third medium in offering direct moral education is a class or discussion group, preferably the latter, composed of pupils of a certain grade who are required to enrol. Some schools wisely have two such classes, one for Freshmen and one for Seniors, thus insuring instruction at least twice during the period of high-school attendance. As in the case of the voluntary group, the quality of leadership will largely determine the values. In a compulsory group this is an especially important factor if satisfactory results are to be secured.

The fourth medium of direct moral education, and one likewise affording many indirect influences, is the school assembly. In the selection of motion-picture films, in the planning of pupil programs for special days, and in the scheduling of outside speakers, the potency of this force for moral guidance should ever dominate the one in charge of this school activity. While moral lectures, save by exceptional speakers, will rarely attain desired results with the bulk of the student body, moral issues may form an important feature of many an address.

Finally, however, not on the planning of the principal nor on the provision of special mediums for moral education but on the moral consciousness of the teachers individually and collectively rests the moral tone of the school. Moral training is not put into a school merely by the efforts of administrators, however wise, nor by the provision of a special period in the daily program. Let morals be part and parcel of every class. Wherever opportunity arises—in the interpretation of literature, in the study of heredity, in the analysis of legal rights of salesmen and customers, or in the designing of wood and metal articles—let character development be the dominant mo-

tive of every teacher. Only thus can ideal training in morals be attained in the high school.

To quote an excellent discussion of this question:

> The most influential moral fact about the school is the presence of the teacher, for the most valuable contribution which a good school can make to the equipment of a growing citizen is a point of view, a way of looking at things, a sense of values. All this, for good or ill, the teacher gives. The details of most lessons are eventually forgotten, but the impression of the teacher remains. The sincerity, the fairness, the sympathy, the kindness, the patience, the courtesy of the teacher, or the lack of the qualities, are the ambassadors of moral influence. Without them the teacher may give the most admirable instruction in all the aspects of moral life and achieve meager moral results. The most important part of the moralizing of the school consists in the moralizing of the teacher, and, in the hands of a teacher whose life itself is an expression of the cardinal virtues, a system of moral culture becomes a powerful instrument in the moralization of the pupil.[1]

In other words, the influence of personality on personality should ever be borne in mind.

Accordingly, if character-building is to be the goal, from foundation to superstructure, in and through every project in which pupil time is occupied, the educational problem must be conceived as primarily an ethical one. Thus, with administrators concerning themselves seriously about it, with necessary means being provided for direct moral instruction, and with teachers and pupils appreciating its importance, the supreme moral purpose of the school will come to be adequately recognized.

[1] George Hodges, *Moral Training in the School and Home*, pp. 200–201. New York: Macmillan Co., 1914.

A SUGGESTED TECHNIQUE FOR SELECTING HIGH-SCHOOL PUPILS WHO MAY BE ALLOWED TO PLAN THEIR OWN LESSON ASSIGNMENTS

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Are there pupils in the high school who can safely be allowed to plan their own daily lesson assignments? This is a pertinent question when much is being said about the importance of self-reliance and initiative in the success of an individual.

The data here presented were obtained in a course in high-school physics given during the school year 1923–24. The class was studying the subject of "heat" at the time. In the second half of the year (Physics II) the writer's classes of four sections were divided into two approximately equal groups on the basis of mean S.D. ratings in two mental-ability tests, namely, Otis A and Miller A; chronological age; I.Q.; S.D. ratings in a series of seven objective tests covering the work of Physics I; teachers' marks in all previous school subjects; and marks in industry given by previous teachers.

No daily lesson assignments were given to the group considered in this article, the object being to try to discover what work pupils would do in such a subject as "heat" if allowed to follow their own plans freely. The marks were to be based not on any tests given but on judgments on the pupils' industry and initiative as shown by concrete results of some sort. The only restriction was that the pupils were to study and work on the subject of "heat." They could do what they judged wisest and of most use to them, absolute freedom in this choice being allowed.

The recitation period was used for conferences of the whole group, each pupil being expected to make his contribution in accounts of his work, questions and discussions being permitted as they naturally arose. No laboratory work was done during the experimental period covering six weeks.

A fairly complete report of the experiment has been given in a

previous article.[1] The purpose of securing the additional data here given was to investigate the work of the individual members of the group who were given no daily assignments in order to ascertain whether such a procedure might be recommended for certain types of pupils in secondary-school work in general. It is understood that any conclusions obtained apply logically only to "heat" in high-school physics, but there may be implications concerning other subjects as well.

The marks given the pupils in this group were not determined by tests covering the work. However, a series of information and problem tests were given preliminary to the work and repeated at the end of the experimental period. Additional tests were also given at the end of the course. The scores here tabulated are the final scores in a specific-answer information test, a true-false information test, an uncompleted-statement information test, a biographical information test, a picture-diagram information test, and two problem tests. The highest possible total score is 224. The tests are objective and cover the conventional work of a high-school course in "heat." Their validity and reliability are high.

Table I gives the number of the pupil, the rank in the series of tests mentioned, the total score in the tests, the Otis I.Q., the Miller I.Q. (recomputed for comparison with Stanford-Binet I.Q.), the mean I.Q., the mean rating in the mental-ability tests expressed in units of standard deviation, chronological age, mental age, mean of teachers' marks in school work for the previous two years, mean of teachers' marks in industry for the previous two years, and rating in Physics I (expressed in S.D. units). The teachers' marks for school work and industry are based on ratings of A, B, C, D, and F, the numerical values being 4, 3, 2, 1, and 0, respectively.

The eleven pupils heading the list have total scores above 123.9, which is the mean total score of another group of pupils who were given regularly assigned lessons during the same six weeks. It is assumed that, if a pupil obtains a score of 123.9 or higher, he has made a praiseworthy conventional achievement in the subject of "heat." A score lower than 123.9 might rightly have been taken as

[1] A. W. Hurd, "Subject Matter versus Character Traits," *Journal of Educational Method*, V (December, 1925), 147–54.

TABLE I

Pupil	Rank	Score	I.Q.			Mental Ability (S.D. Units)	Chronological Age	Mental Age	Mean of Teachers' Marks in School Work	Mean of Teachers' Marks in Industry	Rating in Physics I (S.D. Units)
			Otis	Miller	Mean						
36	1	195	126	129	128	65	188	234	3.48	4.00	67
72*†	2	159	121	121	121	61	202	232	3.60	4.00	60
13†	3	158	127	115	121	63	264	232	3.39	4.00	63
19*	4	155	117	113	115	51	191	219	2.87	3.62	60
77*	5	153	115	114	115	54	218	221	2.71	3.11	62
99*	6	148	124	126	125	66	196	240	2.58	3.25	62
32*	7	145	104	113	109	46	200	209	2.52	3.28	51
63*	8	142	112	122	117	53	188	220	2.13	2.87	50
48†	9.5	138	127	124	126	63	190	239	2.92	3.75	55
107*	9.5	138	97	105	101	36	204	196	1.41	2.62	52
11*	11	130	114	113	114	50	192	219	2.59	3.33	56
Mean	.....	151.0	116.7	117.7	117.5	55.3	203.0	223.7	2.75	3.44	58.0
Lowest	.....	130	.....	.....	101	36	188	196	1.41	2.62	50
33*	12.5	123	108	113	111	46	193	217	2.03	2.78	39
106*	12.5	123	120	117	119	59	211	228	2.58	3.67	61
74	14	121	108	114	111	45	191	212	1.75	3.16	39
96†	15	120	109	115	112	49	197	215	3.35	3.80	51
54	16	116	120	120	120	59	201	230	1.78	2.56	45
111*	17	111	110	126	118	43	178	210	3.55	3.20	56
34*	18	109	111	114	113	50	196	217	2.06	2.65	46
55	19.5	107	111	105	108	44	204	207	2.03	2.75	37
83	19.5	107	113	125	119	54	186	221	2.24	1.83	37
24*†	21	106	109	110	110	46	204	211	2.50	3.62	50
44	22	100	106	112	109	42	187	209	1.17	2.43	29
10*	23	99	119	118	119	59	208	228	2.83	3.62	61
82	24	98	109	105	107	41	193	205	1.52	1.80	46

* This pupil had previously studied general science.
† This pupil was a girl.

TABLE I—*Continued*

Pupil	Rank	Score	I.Q.			Mental Ability (S.D. Units)	Chronological Age	Mental Age	Mean of Teachers' Marks in School Work	Mean of Teachers' Marks in Industry	Rating in Physics I (S.D. Units)
			Otis	Miller	Mean						
40*	25	94	105	108	107	43	209	205	2.21	2.50	46
117	26	92	113	109	111	44	189	210	2.45	2.44	49
50*	27	90	104	99	102	36	207	195	1.80	2.50	37
115*	28	86	113	118	116	54	209	222	2.30	3.12	43
95	29	85	108	105	107	42	208	205	2.29	3.28	45
91	30	79	114	113	114	51	201	219	2.71	2.12	37
79	31	77	98	110	104	40	212	200	1.72	1.60	36
8*	32	73	91	94	93	25	223	178	1.70	2.28	28
18*	33	68	105	110	108	44	202	207	1.96	2.50	38
94†	34.5	67	106	104	105	38	195	202	1.59	2.00	32
104†	34.5	67	107	110	109	44	192	209	2.08	3.25	38
Mean	.....	96.6	109.0	111.4	110.5	45.8	199.8	210.9	2.18	2.73	42.8
Lowest	.....	67	.....	.....	93	25	178	178	1.17	1.60	28

* This pupil had previously studied general science.
† This pupil was a girl.

the criterion of success, but 123.9 seems to the writer very conservative and therefore perfectly acceptable to anyone interested in the data.

It is seen that, of the thirty-five pupils in the group having no regularly assigned lessons, eleven incidentally received scores above the mean obtained by the equated group of thirty-five pupils who had regularly assigned lessons covering the work represented in the tests. Twenty-four pupils made scores below this mean.

It might reasonably be assumed, then, that, of the pupils having no regularly assigned lessons, eleven showed themselves capable of planning their own work and of succeeding according to conventional standards and twenty-four did not, on the basis of the criterion adopted. It is plain that, if the same criterion were applied to the pupils who were given regularly assigned lessons, only about one-half of the group would reach the standard set by the eleven pupils mentioned (as a matter of fact, eighteen of that group did so).

The question arises: Are there any marks of differentiation in these eleven pupils which might be isolated and used in indicating which pupils might reasonably be permitted to have perfect freedom in planning and carrying out their own work in the high school, at least in the subject of "heat"? Further experimentation should be carried on to make it apply to other school subjects.

Does the possible answer hinge on the I.Q.? On the basis of the Otis and Miller tests, the mean I.Q. of the eleven pupils is 117.5 and of the twenty-four pupils, 110.5. One of the eleven pupils has a mean I.Q. as low as 101; one of the twenty-four pupils has a mean I.Q. as high as 120. Much overlapping is seen by examining Table I. If the low limit of 101 I.Q. were taken as the basis for differentiation, only one of the twenty-four pupils should have scored below 123.9. If we treat Pupils 107 and 32 (I.Q., 109) as exceptional cases, the lowest I.Q. among the eleven pupils is 114. Can a low limit of 114 I.Q. be set as the point of differentiation? There would still be seven of the twenty-four pupils who should have obtained a score of 123.9 but did not. It is clearly seen that, although the I.Q. has some bearing on the ability to qualify in the group scoring above 123.9, no such definite statement as we have been trying to make will hold. There are individuals who do much better than one would expect

and others who do much poorer. The basis of I.Q. is not sufficient. The most we could say is that those above 120 I.Q. have proved themselves capable. This includes five of the eleven cases.

Are there any of the other factors mentioned which might help further in answering the question asked? A consideration of the correlation of the test scores and the various factors might illuminate the situation. From the correlations shown in Table II, it is seen that in the case of this group, selected as it is, chronological age is of no significance. If we reason as in the case of the I.Q.'s, those pupils rating above 59 in mental ability, 230 months in mental age, 3.55 in teachers' marks in school work, 3.80 in teachers' marks in

TABLE II

CORRELATION OF TEST SCORES IN PHYSICS WITH VARIOUS FACTORS*

	Correlation
Test scores and I.Q.	.677 ± .06
Test scores and mental ability	.667 ± .06
Test scores and chronological age	.170 ± .10
Test scores and mental age	.657 ± .06
Test scores and teachers' marks in school work	.550 ± .08
Test scores and teachers' marks in industry	.667 ± .06
Test scores and rating in Physics I	.790 ± .04

*Correlation computed by the Spearman rank-difference method.

industry, and 61 in Physics I have succeeded. Not one of the eleven meets all the qualifications. The difficulty of making any hard and fast rule is apparent. There are too many factors to be considered and too many individual variations.

According to the correlations, all the factors except chronological age are effective within the group studied, rating in Physics I being most significant, followed in order by I.Q., mental ability (S.D. units), teachers' marks in industry, mental age, and teachers' marks in school work. Prognosis on the basis of rating in Physics I would then be subject to the least error.

Qualified statements might then be made. Suppose, for example, that all those having ratings in Physics 1 of 50 or higher were given permission to plan their own work. The facts show that five of the twenty-four pupils with scores below 123.9 are in this group. The lowest of the scores made by these five pupils is 99, the other scores

being 106, 111, 120, and 123. The results would probably justify the procedure, especially when it is remembered that all those planning their own work are receiving valuable training in initiative, self-reliance, industry, and other traits.

Suppose that all those having I.Q.'s of 115 or higher were allowed this freedom. The records show that only one of these made a score of less than 99, this one scoring 86. The results would probably justify this procedure also, especially in view of the other benefits gained.

It might be wiser to use the mental-ability rating in S.D. units rather than the I.Q. Suppose, for example, that those having mental-ability ratings of 50 or higher were allowed to plan their own work. The records show that only two of these scored below 99, these being Pupil 115 with a score of 86 and Pupil 91 with a score of 79.

Suppose that any pupil in this group of thirty-five pupils might have had the privilege of planning his own lessons in his own way if he had met any *one* of the following specifications: (1) a rating of 50 or higher in mental ability, (2) a rating of 50 or higher in Physics I, (3) an I.Q. of 115 or higher, (4) a rating of 3.00 or higher in industry. Twenty-four pupils would have been able to meet one or more of these specifications. If the records were inspected carefully, Pupil 104 might have been requested to attend the regular classes because she was a girl, had never had general science, and had a low rating in Physics I. Pupil 91 might likewise have been advised to enter the regular class because he had a low rating in Physics I and had never had general science. The records show that, of the twenty-two pupils remaining, but two received scores less than 99, namely, Pupils 115 and 95.

Another method of tabulating the data is shown in Table III. This table gives the rank of each pupil in the group in I.Q., mental ability, teachers' marks in school work, teachers' marks in industry, and Physics I. The last two columns give the sum of the ranks and the average rank. The rank in the tests in "heat" is also given for purposes of comparison.

Suppose that all the pupils having average ranks below 17 had been allowed to plan their own work. Of the twenty-four pupils having final scores below 123.9, only Pupils 106, 96, 111, 24, 10, and 115

would have been included in the group. Pupil 107 among the eleven scoring above 123.9 would have been excluded. The lowest final

TABLE III

Pupil	Rank in "Heat"	Rank in I.Q.	Rank in Mental Ability	Rank in Teachers' Marks in School Work	Rank in Teachers' Marks in Industry	Rank in Physics I	Sum of Ranks (Last Five Columns)	Average Rank
36	1	1	2	3	2	1	9	1.8
72*†	2	4.5	5	1	2	7.5	20	4.0
13†	3	4.5	3.5	4	2	2	16	3.2
19*	4	13.5	13.5	7	8	7.5	49.5	9.9
77*	5	13.5	10	9.5	18	3.5	54.5	10.9
99*	6	3	1	12.5	13.5	3.5	33.5	6.7
32*	7	24	19	14	11.5	13.5	82	16.4
63*	8	11	12	21	19	15.5	78.5	15.7
48†	9.5	2	3.5	6	5	11	27.5	5.5
107*	9.5	34	33.5	34	23	12	136.5	27.3
11*	11	15.5	15.5	11	10	9.5	61.5	12.3
33*	12.5	20	19	24.5	20	24.5	108	21.6
106*	12.5	8	7	12.5	6	5.5	39	7.8
74	14	20	21	29	16	24.5	110.5	22.1
96†	15	18	17	5	4	13.5	57.5	11.5
54	16	6	7	28	24	21.5	86.5	17.3
111*	17	10	26.5	2	15	9.5	63	12.6
34*	18	17	15.5	23	22	19	96.5	19.3
55	19.5	26.5	23.5	24.5	21	29.5	125	25.0
83	19.5	8	10	19	33	29.5	99.5	19.9
24*†	21	22	19	15	8	15.5	79.5	15.9
44	22	24	28.5	35	29	34	150.5	30.1
10*	23	8	7	8	8	5.5	36.5	7.3
82	24	29	30	33	34	19	145	29.0
40*	25	29	26.5	20	26	19	120.5	24.1
117	26	20	23.5	16	28	17	104.5	20.9
50*	27	33	33.5	27	26	29.5	149	29.8
115*	28	12	10	17	17	23	79	15.8
95	29	29	28.5	18	11.5	21.5	108.5	21.7
91	30	15.5	13.5	9.5	31	29.5	99	19.8
79	31	32	31	30	35	32	160	32.0
8*	32	35	35	31	30	35	166	33.2
18*	33	26.5	23.5	26	26	26.5	128.5	25.7
94†	34.5	31	32	32	32	33	160	32.0
104†	34.5	24	23.5	22	13.5	26.5	109.5	21.9

* This pupil had previously studied general science.
† This pupil was a girl.

score of any of the six pupils was 86, which indicates that such a procedure would probably have been justified.

No arguments are necessary to show the probable advantage of pupils being given freedom to develop initiative, self-reliance, industry, and other desirable character traits so long as they maintain

fairly high achievements in conventional and traditional subject matter. It seems wise to encourage this form of procedure as widely as possible. There might be some difficulties in the matter of administration but probably no more than arise in the case of the methods now used. If it could be demonstrated that much of our present class instruction is unnecessary, that pupils can be trusted to do more of their work with less detailed class work, fewer teachers might be used to accomplish more and the resulting savings put into other projects to improve further the opportunities in education afforded our youth. Such records as those herein given would help greatly in the selection of the pupils who might be intrusted with the greater freedom.

Allowing pupils to plan their own lessons seems revolutionary to one who has not thought of it before but becomes more rational as one considers its possibilities. The fact that it really works with certain types of pupils is proof of its practicability. We, as teachers, know that there are pupils who seem to have acquired self-reliance, initiative, and industry to a surprising degree by the time they are Juniors or Seniors in high school. We realize also that some of these pupils are mature in thought and action and rank high in mental ability. This form of lesson assignment is the individual method *par excellence* and offers an opportunity for practice in trait actions which should not be overlooked.

Educational Writings

REVIEWS AND BOOK NOTES

The case method applied to educational counseling and guidance.—"In theory, the school has long realized the futility of accomplishing effective results with unwilling pupils, but, in practice, it has been slow to adjust itself to the conditions which obtain when pupils are compelled to come" (p. 17). As a first step in pointing the way to harmonizing theory and practice, the author of the foregoing statement has written a book[1] which outlines a technique and illustrates its application to school administration by ten case studies of maladjusted pupils. In each case there is a detailed account of the diagnostic procedure, the remedial treatment prescribed, and the results obtained. Take, for instance, the account of Pupil G, the son of a prominent professional man, who had developed serious speech defects when he was about seven years old. The author gives a brief but complete account of the preliminary diagnosis. He tells what he was able to learn from the father: records of the boy's height and weight and their relation to each other, puberal development, and general physical condition. Next appear records of the child's reactions to eight preliminary tests in spelling, composition, grammar, etc., the results of which led to placing the boy in the lowest section of his class. Later in the year came the next step in diagnosis: studying the results of the Terman Group Test of Mental Ability, which had been given to the whole class. Table XXVI shows not only the general result (Terman mental age) but also the number of errors and the score in the case of each of the ten sections of this test. From the incidence of errors in various sections of this test the author learned some characteristics of the pupil. Some account also was obtained of the boy's record in a summer vacation camp. The results of the physical examination given at the opening of the second year were carefully studied together with the program of studies outlined for the pupil.

Pupil G's failure in Latin early in the second year precipitated a serious conference with the father, which revealed undesirable but well-intentioned home discipline and led the principal to tell the father that either the boy must be removed from the school or the father would have to co-operate fully with the school in a program of remedial procedure. After the father had agreed to the program, the Downey Individual Will-Temperament Test was administered.

[1] William Claude Reavis, *Pupil Adjustment in Junior and Senior High Schools.* Boston: D. C. Heath & Co., 1926. Pp. xviii+348. $2.00.

The results shed some light on the case. "Viewed as a whole, the result of the Downey test disclosed an aspect of Pupil G's individuality more or less previously obscured. . . . . The father and the boy's teachers were informed of the inherent ability of the lad and the need for the development on his part of confidence, patience, and earnestness of purpose" (p. 256).

The boy's career is followed carefully through vacations and each school year, past his graduation, the account ending with the following comments. "Viewed as a whole, his work for the four high-school years is an achievement worthy of note when his handicaps are considered. He entered college the ensuing fall, and his progress to the date of this report has been satisfactory. The reports from the dean of his college indicate that the speech difficulty is very nearly overcome" (pp. 260–61).

Other cases outlined are of the following types: "Social Maladjustment" (chapter vii), "Physical and Health Disabilities" (chapter viii), "Endocrine Deficiency" (chapter ix), "Unfavorable Mental Predilection" (chapter x), "Deficient Previous School Training" (chapter xi), "Personality Maladjustment" (chapter xiii), "Ineffective Habits of Work and Study" (chapter xiv), "Psychophysical Defects" (chapter xv).

In the first six chapters the author presents some of the reasons for his work and draws some generalizations from his studies. In chapter i he summarizes several studies showing maladjustment of high-school pupils, closing the chapter with an excellent bibliography. In chapter ii he discusses the pupil's need of counsel and guidance, considered under the topics: "Guidance in the Choice of Subjects and Courses" (pp. 20–27), "Guidance in Personal Conduct" (pp. 27–29), "Guidance with Respect to Disabilities" (pp. 29–30), "Guidance in the Development of Special Ability" (p. 31), "Guidance in the Development of Intellectual Interests" (pp. 31–32), "Guidance in the Choice of a Vocation" (pp. 32–37). A selected bibliography of thirty-six items follows. Chapters iii–v, inclusive, deal with the case method, its development and its application in other branches of knowledge, particularly medicine, psychology, psychiatry, and social service (chapters iii and iv), and its application to guidance and counseling (chapter v). In chapter vi it is suggested that "the failure of the high school in the past to render a better accounting of its student personnel is due very largely to the fact that its methods of personnel administration were inefficient and unscientific" (p. 102). Some studies of causes of failure are tabulated. A classification of causes of failure according to type is suggested, as follows: (1) those due to ineffective habits of work, (2) those due to personality difficulties, (3) those due to deficiencies in training, (4) those due to physical defects, (5) those due to mental disability, (6) those due to psychophysical defects. A number of such cases dealt with in the University High School, University of Chicago, during a four-year period, together with the results of the treatment employed, are set forth in Table XVIII on page 124.

The book closes with three very useful appendixes: Appendix A, "Selected References on Pedagogical Case Accounts" (pp. 317–21); Appendix B, "Se-

lected References on Medical Diagnosis" (pp. 322–23); Appendix C, "Forms Used in Recording Personal Data on Pupils Enrolled in the University High School" (pp. 324–41).

The book will be heartily welcomed by all principals, counselors, and teachers of adolescents not only for its content but also for its procedure. The reviewer can testify to its success as a textbook in college classes in high-school supervision.

W. J. COOPER

SUPERINTENDENT OF SCHOOLS, SAN DIEGO, CALIFORNIA

A contribution to science-teaching.—A significant contribution[1] has been made in the field of general science by Professors Pieper and Beauchamp. In no other text in general science with which the reviewer is familiar has the work been so carefully developed over a long period of years.

The book is organized into seventeen teaching units: "The Earth on Which We Live," "Weather and Climate," "Providing a Good Food Supply," "Obtaining a Good Water Supply," "Keeping in Good Physical Condition," "Selecting and Caring for Our Clothing," "Protecting Ourselves from Disease," "The Nature and Control of Fire," "Providing Heat and Fresh Air in Our Buildings," "Materials for Construction," "Machines for Doing Work," "Putting the Forces of Air and Water to Work," "Using Steam and Exploding Gas for Power," "Generating and Using Electricity," "Lighting Our Buildings and Streets," "Communication with Our Neighbors," and "Transportation by Land, Water, and Air." This is the first general-science text which is consistently organized into real units of learning.

By repeated trial over a long period of time, the authors have been able to select material which is suitable for the seventh or eighth grade and to arrange it so that continuity and progression are attained. We shall await scientific evidence before passing judgment as to whether the material presented in the text is the science material most vital for general education at this level.

The unitary organization for teaching purposes is admirable. At the beginning of each unit is a list of introductory exercises and problems, which are calculated to connect the new materials with the past experiences of the pupil, to raise some thought-provoking problems that will need to be investigated further, to motivate the work, and to give the teacher some evidence of what the pupil already knows about the unit.

An interesting treatment follows the introductory exercises, calculated to motivate the work and to give the pupil a general understanding of the unit as a whole. Specific problems for study are presented, and various types of exercises are given, which should enable the pupil to test himself and to see whether his understanding of the general problem under consideration is complete. In con-

[1] Charles John Pieper and Wilbur Lee Beauchamp, *Everyday Problems in Science.* Chicago: Scott, Foresman & Co., 1925. Pp. xxxiv+600. $1.60.

nection with the work on the problems and exercises, excellent opportunity is provided for right training in the necessary study skills and abilities.

At the end of each unit is a list of additional exercises and projects for those who are rapid and diligent workers but who have not yet developed their science interests and their ability to work independently to the point where they are able to carry out a project of their own under their own volition and, for the most part, under their own guidance. For those who have developed some real intellectual interests in science and have attained some degree of intellectual independence, there are in the back of the text guides and suggestions for additional study in connection with each unit. This provision for individual differences is an outstanding contribution of the book.

Many excellent illustrations are included in the text; these are labeled so that one can study them directly rather than through the medium of letters or figures. The text is written and the exercises are devised so that the pupil must study and analyze the illustrations in doing the work.

The teachers' guidebook which is planned to accompany the text is a unique and valuable contribution to science-teaching. This book will be of more value to the average teacher than a course in special methods of teaching general science because it will show the teacher possible procedures in specific teaching situations. The guidebook is as large as the text itself. Every unit is considered, and each step in leading a class to mastery is discussed. Even tests which may be given to see whether mastery has been attained have been included. Samples of pupils' work are also presented. This book will go far in enabling the inexperienced teacher, the overloaded teacher, and the teacher who must instruct a class in general science without proper preparation to teach the subject in a creditable manner.

In the judgment of the reviewer, the book is the outstanding general-science text from the standpoint of the thoroughness and carefulness of its preparation, its provision for individual differences, and its organization.

H. A. CUNNINGHAM

UNIVERSITY OF KANSAS

A graded book list for elementary-school and junior high school reading.—In co-operation with the Carnegie Corporation of New York and the American Library Association, a group of teachers in Winnetka, Illinois, undertook to find out the books that are being read and enjoyed by children and the age and degree of reading ability necessary for the enjoyment of such books.[1] A ballot was devised for the readers of a book to use in checking its interest value and difficulty. The difficulty check was found to be unreliable because the children tended to check all books as "just about right." In order to determine the reading age of the children, the paragraph-meaning section of the Stanford Silent Reading Test was used. A total of 36,750 children reported on books, and all

[1] Carleton Washburne and Mabel Vogel, *Winnetka Graded Book List.* Chicago: American Library Association (86 East Randolph Street), 1926. Pp. 286.

were given this section of the test. The correlation between the scores of three hundred children and their scores on the entire test was .96. Of the more than eight thousand books on which reports were made, only 796 had been read by twenty-five or more children. These are the only books for which ratings are published.

The reading grade assigned to a book is the median reading grade of the children who read and liked it. This practice seems questionable; while it is important, the interest basis should not exercise full control. It is probable that a book liked by the majority of the children in a single grade is not a book designated for that grade. The matter is therefore doubly open to criticism. In order to make amends, if possible, the reading grades of the middle 50 per cent of the children who liked each book are given.

The interest ratings proved to be reliable. All the ballots turned in at Winnetka during a certain week were kept separate; later the children were asked to mark new ballots for the same books. Seventy-eight per cent of the children gave the same rating both times; 14 per cent changed only in degree of like or dislike; only 8 per cent reversed their decisions.

Thirteen children's librarians rated the books as to literary merit and content. There were four classes, and 119 books were placed in the highest class by 75 per cent of the judges. It is interesting to note that *Adventures of Tom Sawyer*, *Heidi*, *Little Women*, *Black Beauty*, *Pinocchio*, and *Hans Brinker* have the highest ratings. A full explanation of the ratings and of the methods of determining them is given, together with additional information of interest.

Most of the work done is of a highly scientific character and, as such, represents pioneer research work in this field. The book will be especially valuable to teachers and educators.

W. G. PIERSEL

Making French phonetics a practical exercise.—Without blare of trumpets but in modest scholarly fashion, Professor Bond has set out to improve the teaching of elementary French in our junior colleges. From the circular recently distributed by the University of Chicago Press, one gets the impression that this improvement is well-nigh a revolution. Experienced teachers will, however, soon recognize in the author's program a selection and intensification of the best points in the college methods at present in vogue. The reviewer has had recent experience with questionnaires on first-year college French and, as a result, welcomes any new and promising system that may both vitalize and standardize the work now being done.

The Sounds of French,[1] a fundamental text, which disproves any contention that the emphasis on extensive reading is to lessen the importance of oral work, has been issued as the first book of a series. Even in a rapid examination this manual of sixty pages recommends itself because of its simplicity and usefulness.

[1] Otto F. Bond, *The Sounds of French*. Chicago: University of Chicago Press, 1925. Pp. x+60. $1.25.

In the first twelve pages the author explains the phonetic principles involved in the proper production of French sounds. He also includes in these pages matters of quantity, stress, syllabication, elision, and liaison. He states his facts succinctly and accurately. On pages 14–18 he presents a very complete table of usual spellings of vowel and consonant sounds, with examples and phonetic transcription and with cross-references to the seven following sections, which deal in detail with the production of these sounds. In the seven sections he divides the units of analysis as follows: front oral vowels; explosive and fricative consonants; back oral vowels; lateral, nasal, and trilled consonants; rounded front vowels; semiconsonants; nasal vowels. These sections are arranged so that the study of groups of vowel sounds alternates in a natural way with the study of groups of consonant sounds. In addition, the sections are separated by a number of exercises, thirty-five in all, which provide an adequate number of new combinations and syllable drills on the sounds studied. Each drill is followed by a few review questions and exercises for supplementary drill. Elaborate cross-references unify the divisions of related material. It would seem that after a study of this manual a student should have acquired an assured and confident pronunciation of French. Aside from the well-planned features listed, the publishers advertise phonographic recordings of the exercises in the manual so that there is placed within easy reach an adequate instrument for the acquisition of correct French utterance.

There are many pleasing details about this elementary phonetic course: the clarification of many terms now loosely used, such as "voiceless" and "unvoiced" (p. 2); the admission that for seven of the thirty-seven different sounds in the French language there is no English approximate and that for the remaining thirty the English is *only approximate;* the stressing of the differences between English and French so as to put the American student constantly on his guard; the clear treatment of the trilled and the uvular *r;* the mention of the influence of assimilation; the warning against aspiration so noticeable in our students when they pronounce French; the arrangement of the exercises with phonetic and regular spelling so placed as to make reference quick and easy; and, finally, the adequacy and variation of these drills, practically assuring, it would seem to the reviewer, a high attainment in correct pronunciation.

Professor Bond has worked out in this manual and in the accompanying records the most pedagogical, accurate, and scientific instrument available at present for the acquisition of an intelligent and correct pronunciation of French in elementary classes. It should meet with wide use, especially in schools remote from centers where correct French can be heard.

HARRY KURZ

KNOX COLLEGE

An introduction to the study of educational sociology.—The study of educational sociology in universities, colleges, and normal schools has gone on under that title for a score of years, and we have reached the point in the development

of the subject where we may note specific trends, if not definite boundaries, which delimit the field of study.

Among writers in this field there are two groups with totally different educational backgrounds and training. The points of view of these writers are so different that very little can be found in common between them. The first group is represented by such writers as Clow in his *Principles of Educational Sociology*, which presents a discussion or collection of sociological principles with a sort of general emphasis on, or mention of, their educational applications. This group includes sociologists by training, and their view is that the best educational sociology is pure sociology.

The second group is represented by Peters in his *Foundations of Educational Sociology*. This group is composed of educators with their training chiefly in the field of education with a few courses in sociology. This group writes on education with sociological implications. Many of this group are giving courses not listed in educational sociology at all. The two groups therefore represent two widely divergent trends in the development of the new science. As a matter of fact, the National Association for the Study of Educational Sociology, comprising these two groups, has two meetings each year, one with the Department of Superintendence and the other with the American Sociological Association, and generally no one except the president is present at both meetings. One meeting draws the sociologists and the other the educators.

With the possible exception of Smith's *Introduction to Educational Sociology*, a recent book[1] comes nearer than any other to representing a middle ground between the two extremes. This book is primarily a sociology, but the author takes pains at every point, as he collects and presents the principles of sociology, to give them a specific educational interpretation and to indicate their educational applications. The main emphasis, however, is on sociology. The author explains that, "since the book is designed for those not having had a course in sociology, it has been necessary to include a large amount of sociological data and conclusions" (p. xiv). This no doubt accounts for the fact that the emphasis is on general sociology.

The book is divided into four parts: definitions and nature of educational sociology, a study of selected social groups, selected problems, and general applications to schools. With the exception of the first division heading, these main division headings as well as the subdivision headings might well afford an outline for general sociology.

The book is disappointing as a work presented at this stage in the development of the new science. It represents the older sociologists and fails to present the newer scientific techniques. If their science is to live and to win for itself a permanent and vital place in education, educational sociologists must do what the educational psychologists have already done. They must develop a scientific technique and a body of subject matter of their own which will help the educator

[1] Alvin Good, *Sociology and Education*. New York: Harper & Bros., 1926. Pp. xxviii+590. $3.00.

in a scientific interpretation of his procedure. Educational sociology must help the educator to determine the subject matter, the method, the organization, and the results of education.

The author of this volume does not seem to be conscious of the need of such an interpretation. The book may be said, therefore, to present another collection of sociological principles, gathered originally by common observation, to which the author has given the usual interpretation. It is fair to say that the book meets the needs of beginning classes in normal schools and teachers' colleges as well as does any book on the market.

E. GEORGE PAYNE

NEW YORK UNIVERSITY

An analysis of the factors of success in the high school.—The development of intelligence tests to their present point of reliability has been a marked achievement in the field of education. However, it has already become apparent to the leading thinkers in this field that the intelligence quotient is an unreliable basis of prognostication of a pupil's success in school. To determine the factors other than general intelligence which contribute to success in school is one of the most recent topics of investigation. A study[1] which aims to discover some of these factors of success has recently been published.

The author writes as follows:

> This study is an attempt to obtain measures and estimates of various traits for junior and senior high school pupils, to analyze them in relation to one another, and to evaluate them with reference to their significance for school achievement. It attempts to analyze high-school marks in terms of objective measures of mental ability, of achievement, and of personality, and on the basis of teachers' judgments of mental ability and character and physical traits [pp. 3–4].

After the introductory chapter, in which the purpose of the study is outlined, the author gives a detailed statement of her plan of investigation, the subjects employed (pupils in the Horace Mann High School for Girls and in the Horace Mann High School for Boys), the tests used, and the criteria adopted for comparisons. In chapter iii the author outlines her method of classifying and treating the data collected. She discusses at some length the various formulas for the computation of the simple and multiple correlations which she employs. The actual correlations of the various traits studied with her standard criterion, teachers' marks, and with one another constitute the content of the next two chapters of the treatise.

For most readers the general conclusions presented in the last chapter are the most significant. All the variables considered except age in grade and the results of three of the will-temperament tests showed a positive correlation with the chief criterion. General intelligence as measured by mental tests showed a

[1] Cecile White Flemming, *A Detailed Analysis of Achievement in the High School.* Teachers College Contributions to Education, No. 196. New York: Teachers College, Columbia University, 1925. Pp. xii+210. $1.50.

high correlation with achievement in high school even where the level of ability was average. Next to intelligence, school attitude and industry or will and persistence seemed most significant as factors in school achievement. Other conclusions concerning the correlation of certain variables with leadership and industry and the significance of the same variables in achievement as shown by multiple correlations are also presented but cannot be given in any detail here.

The problem attacked is important. The method of approach seems scientific. The conclusions are at least suggestive of factors other than general intelligence which need to be taken into account in predicting success or in analyzing failure. Undoubtedly, other studies will verify or disprove the general conclusions reached and establish their reliability as guiding principles for the administrator and personnel director in public education.

A. J. BRUMBAUGH

Correlated mathematics for the junior high school.—Among the multitude of ideas and the endless variety of concepts that constitute any course of study, there are a few which form its general framework. These fundamental concepts with their great organizing powers are to the course what the spinal column is to a vertebrate animal. They give the whole structure its character, its stability, and its coherence. They are the unifying principles about which the important materials of the course are to be grouped. In mathematics the one great idea which is sufficient in its scope to form the basis of unification is the functional relation. Because of the interrelations of the equation, the formula, the graph, and the geometric relations inductively acquired, the function concept should be the unifying principle around which mathematical material should be organized.

A true solution of the problem of the reorganization of secondary-school mathematics, therefore, lies in the realization of the importance of the functional relation and in the willingness of textbook-writers and teachers of mathematics to lay stress on it as the primary and underlying principle of the course and to have constantly in mind the pupil's training in the formation of the habit of functional thinking. The purpose of a series of books[1] on general mathematics, designed for the first and second years of the junior high school, is best described by the author's statement in the Preface of Book One:

> This book . . . . aims to give the pupil of this grade as much of the practical uses of mathematics as he is able to comprehend, to give him sound mathematical training in thinking in terms of quantitative relationships, to give him some appreciation of the part played by mathematics in our present civilization, and to help him see the beauty of geometrical design in nature, art, and industry. . . . . The author takes the view that power to see and express quantitative relationships that are needed in interpreting references to them [problems] met in all phases of modern life is quite as practical to the alert, intelligent person as are the mere utilitarian phases of the subject [pp. iii–iv].

[1] John C. Stone, *The New Mathematics:* Book One, pp. xii+314; Book Two, pp. x+308. Chicago: Benj. H. Sanborn & Co., 1926.

In spite of this firm conviction of the author, the books, like most of the similar texts on general mathematics, fail to lay proper emphasis on the functional relation either through the organization of the principles or through the arrangement of the materials. Of the twenty-eight chapters, fourteen in each book, only ten treat functional representation. Graphic representation is developed in chapter iii of Book One and in chapter iv of Book Two. Area and volume formulas are considered in chapters viii and ix of Book One, respectively. Chapters v and vi of Book One and chapters iii and iv of Book Two take up practical geometrical notions. Chapter ii of Book Two deals with the use of the equation in the solution of problems. The remaining chapters are devoted entirely to arithmetic.

A unique feature of Book One is the first chapter, in which the pupil is introduced to the practical side of the course by means of a group of interesting problems. Such a treatment at the outset is likely to create in the pupil a desire to know more about the mathematical principles to which he is being introduced and to impress him with their broad applications to other quantitative relationships. The problem situation is well met by the author. A chapter in each book is devoted entirely to making and solving problems. It is to be regretted, however, that cumbersome arithmetical methods alone are used in analyzing and interpreting the relationships involved in the problems. Since algebraic representation is considered in the first chapter, the equation might have been used in this connection to better advantage. The equation is a powerful instrument in the representation and interpretation of quantitative relationships, and the pupil should be trained in its manipulation early in the course.

Five chapters of Book Two and three chapters of Book One treat commercial arithmetic, percentage, banking, investments, insurance, and taxes. Here again the author fails to use the efficient "handmaid" to numerical relationships, namely, the equation. In both books there is an abundance of material for arithmetic drills. Each chapter is followed by appropriate tests. The last two chapters of each book consist entirely of review problems, general tests, and remedial drills.

J. S. GEORGES

Recent educational progress in Russia.—Because of an incessant deluge of propaganda, the average American's conception of Russia today is probably a devastated country the inhabitants of which are unfortunate believers in unorthodox ideas concerning society. In fact, it is difficult for intelligent persons to obtain accurate information about Russia because of the maze of prejudices, misconceptions, and shibboleths established by the press and by protagonists of various theories of government. Information is only gradually filtering through to this country concerning the true status of social, economic, and industrial conditions in Russia.

A recent book[1] presents a readable and fascinating cross-sectional view of

[1] Scott Nearing, *Education in Soviet Russia.* New York: International Publishers, 1926. Pp. 160. $1.50.

the educational situation in Russia in 1925, as gained by the author, an experienced college professor, in a two-months trip of more than three thousand miles, during which he visited about seventy institutions ranging from the kindergarten to the university. The book is filled with facts concerning the organization, administration, curriculums, technique of instruction, and equipment of schools of all types.

Only a few of the outstanding efforts of the Russian authorities in the reorganization of the educational system can be mentioned here. Sixty-two per cent of the recruits in the Russian army during the world-war were illiterate. Lunacharsky, Peoples' Commissar for Education, estimates the present shortage of teachers at 250,000; only about one-half of the children of school age are enrolled in schools. The physical equipment of the institutions is generally poor on account of the lack of funds. The positive side of the picture discloses great advances in adult education and in industrial education, the co-operation between industries and the schools, the progress made in actual student government, the abandonment of the lecture system in colleges, the establishment of laboratory schools, and the serious and intelligent attitude of students toward their educational endeavors. The author seems to explain the progressive tendencies on the basis of an abandonment of tradition, the culling of the best procedures from the educational literature of all countries, the open-minded optimism of the educational leaders, and the avoidance of errors in educational practices made in other countries.

Some educators immersed in the pabulum of propaganda bureaus may say that the author has viewed the Russian educational situation through extremely favorable lenses. In any event, American educators may well keep in touch with the progress of educational innovations in Russia. The author has rendered a valuable service to educators everywhere.

W. G. KIMMEL

Ideals and sacrifices of early patriots.—In recent years much emphasis has been placed on the importance of the study of American institutions. The need has been supplied by a type of reading that appeals to boys and girls and at the same time inspires them with the high ideals and purposes of our forefathers. Various organizations have been used by different authors in this field, but a recent attempt[1] shows a marked change from any yet employed.

The purpose of the book is to create an appreciation for the Declaration of Independence by showing the passion for freedom, the sufferings, and the hardships experienced by the makers of this historic document. The author believes that only after these experiences have been re-lived can a boy or girl really understand the full significance of the immortal phrases of the Declaration of Independence which are dear not only to Americans but to lovers of freedom throughout the world.

[1] George William Gerwig, *The Declaration of Independence for Young Americans*. New York: George H. Doran Co., 1926. Pp. 122. $1.25.

The general plan of the book is to enumerate and discuss such phrases as the following: "all men," "created equal," "inalienable rights," "life," "liberty," "the pursuit of happiness," "governments among men," "just powers," "the consent of the governed," and "we, the people." In each case there is a moderate amount of historical material used in explanation. There are thirty pages of definite historical material, forty-eight pages of general material, and thirty-nine pages of idealism. The first forty-eight pages deal with the desire for freedom on the part of the early English and contain the most definite historical material presented. An attempt is made in each case to use material that is known to the average boy or girl and applications from varied fields of interest. The general tone and word choice are well adapted to the junior high school level. "The Declaration and the Junior Republics," considered in the last division of the book, points out five fundamental rights which young Americans should never willingly give up—freedom of person, trial, worship, speech, and property—and sets forth the five great obligations that challenge the continuance of these ideals.

It is not criticism to say that the book deals with a practical subject in an extremely idealistic manner. Perhaps a greater amount of definite historical data could have been used. The interest drags somewhat in places on account of the sameness in style and technique. However, if used as a supplementary work with a more informational treatment of the Declaration of Independence and its backgrounds, the text should prove a valuable aid in stirring the youthful imagination and in making fact more fascinating. The junior high school boy and girl should read the book with enthusiasm and thus gain in historical background and appreciation.

R. B. WEAVER

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

ANTHONY, KATHERINE M. *A Manual for Observation and Teaching in the Elementary Grades.* Baltimore: Warwick & York, Inc., 1926. Pp. 70.

AVERILL, LAWRENCE AUGUSTUS. *Educational Hygiene.* Boston: Houghton Mifflin Co., 1926. Pp. xvi+546. $2.60.

AYER, ADELAIDE M. *Some Difficulties in Elementary School History.* Teachers College Contributions to Education, No. 212. New York: Teachers College, Columbia University, 1926. Pp. vi+70. $1.50.

BENNETT, G. VERNON. *The Junior High School.* Baltimore: Warwick & York, Inc., 1926 [revised]. Pp. 226.

BRIGGS, THOMAS H. *Curriculum Problems.* New York: Macmillan Co., 1926. Pp. xiv+138.

BUCKINGHAM, B. R. *Supply and Demand in Teacher Training.* Bureau of Educational Research Monographs, Number 4. Ohio State University Studies, Volume II, Number 15. Columbus, Ohio: Ohio State University, 1926. Pp. x+182. $1.50.

BUSWELL, GUY THOMAS. *Summary of Arithmetic Investigations (1925).* Chicago: Department of Education, University of Chicago, 1926. Pp. 26. $0.20.

COOK, WILLIAM ADELBERT. *High School Administration.* Baltimore: Warwick & York, Inc., 1926. Pp. x+378.

EATON, THEODORE H. *Education and Vocations: Principles and Problems of Vocational Education.* New York: John Wiley & Sons, Inc., 1926. Pp. vi+300. $2.50.

Educating for Responsibility. By Members of the Faculty of the South Philadelphia High School for Girls. New York: Macmillan Co., 1926. Pp. xviii+310.

GOODENOUGH, FLORENCE L. *Measurement of Intelligence by Drawings.* Yonkers-on-Hudson, New York: World Book Co., 1926. Pp. xii+178. $1.80.

HOLLINGWORTH, LETA S. *Gifted Children: Their Nature and Nurture.* New York: Macmillan Co., 1926. Pp. xxiv+374.

Improvement in the Teaching of Reading. Supplement to the Course of Study in Reading, Elementary and Secondary Grades. Bureau of Research Monographs, Number 1. Baltimore: City Department of Education, 1926. Pp. 130.

MEYER, HAROLD D. *A Handbook of Extra-Curricular Activities in the High School.* New York: A. S. Barnes & Co., 1926. Pp. xiv+402. $4.00.

NOONAN, MARGARET E. *Influence of the Summer Vacation on the Abilities of Fifth and Sixth Grade Children.* Teachers College Contributions to Education, No. 204. New York: Teachers College, Columbia University, 1925. Pp. vi+104.

SCHWESINGER, GLADYS CLOTILDE. *The Social-Ethical Significance of Vocabulary.* Teachers College Contributions to Education, No. 211. New York: Teachers College, Columbia University, 1926. Pp. x+74. $1.50.

STRASHEIM, J. J. *A New Method of Mental Testing.* Baltimore: Warwick & York, Inc., 1926. Pp. 158.

STRATEMEYER, FLORENCE B., and BRUNER, HERBERT B. *Rating Elementary School Courses of Study.* Studies of the Bureau of Curriculum Research, Bulletin No. 1. New York: Teachers College, Columbia University, 1926. Pp. xiv+194.

TERRY, PAUL W. *Extra-Curricular Activities in the Junior High School.* Baltimore: Warwick & York, Inc., 1926. Pp. 122.

WOODYARD, ELLA. *The Effect of Time upon Variability.* Teachers College Contributions to Education, No. 216. New York: Teachers College, Columbia University, 1926. Pp. vi+56.

BOOKS PRIMARILY FOR HIGH-SCHOOL TEACHERS AND PUPILS

COLE, WILLIAM MORSE. *Economic Success.* New York: Macmillan Co., 1926. Pp. xvi+392.

Course of Study for Junior High Schools: Hygiene, pp. 84; *Industrial Arts Education*, pp. 122. Baltimore: City Department of Education, 1926.

Course of Study for Junior and Senior High Schools: Commercial Education, pp. 210; *French*, pp. 62. Baltimore: City Department of Education, 1925.

FENTON, NORMAN. *Self-Direction and Adjustment.* Yonkers-on-Hudson, New York: World Book Co., 1926. Pp. vi+122. $1.40.

FRIES, CHARLES CARPENTER, HANFORD, JAMES HOLLY, and STEEVES, HARRISON ROSS. *The Teaching of Literature.* Newark, New Jersey: Silver, Burdett & Co., 1926. Pp. iv+172+x.

HILLAS, MARJORIE, and KNIGHTON, MARIAN. *Athletic Dances and Simple Clogs.* New York: A. S. Barnes & Co., 1926. Pp. 54. $2.00.

JASINSKI, MAX. *Contes de la vieille France.* Notes, Exercises, and Vocabulary by M. S. Pargment. New York: Macmillan Co., 1926. Pp. viii+198.

LOT-BORODINE, MYRRHA, and SCHOEPPERLE, GERTRUDE. *Lancelot et Galaad.* New York: Oxford University Press, American Branch, 1926. Pp. xii+226. $1.10.

Selecciones Poéticas. Compiled and Collected by Felipe Janer. Newark, New Jersey: Silver, Burdett & Co., 1926. Pp. xxiv+510+viii.

PUBLICATIONS OF THE UNITED STATES BUREAU OF EDUCATION AND OTHER MATERIAL IN PAMPHLET FORM

MCCOY, JEANNETTE C. *Home Help.* Wauwatosa, Wisconsin: Kenyon Press, 1926. Pp. 24. $0.25.

PAYNE, E. GEORGE, and GEBHART, JOHN C. *Method and Measurement of Health Education.* New York: New York Association for Improving the Condition of the Poor (105 East Twenty-second Street), 1926. Pp. 44.

The Pontiac Spelling List for High School Pupils. Pontiac, Illinois: School Service Co. Pp. 16. $0.10.

Recent issues of the Bureau of Education:

Bulletin No. 44, 1925—*Land-Grant Colleges.*

Bulletin No. 4, 1926—*Progress in Home Economics Education.*

Bulletin No. 5, 1926—*General University Extension.*

Bulletin No. 10, 1926—*Accredited Higher Institutions.*

VINCENT, GEORGE E. *The Rockefeller Foundation: A Review for 1925.* New York: Rockefeller Foundation, 1926. Pp. 60.

MISCELLANEOUS PUBLICATIONS

HERRICK, C. JUDSON. *Brains of Rats and Men.* Chicago: University of Chicago Press, 1926. Pp. xiv+382. $3.00.

Intelligent Parenthood: Proceedings of the Mid-West Conference on Parent Education, March 4, 5, and 6, 1926. Chicago: University of Chicago Press, 1926. Pp. x+326. $2.00.